

ATHLETIC JOURNAL

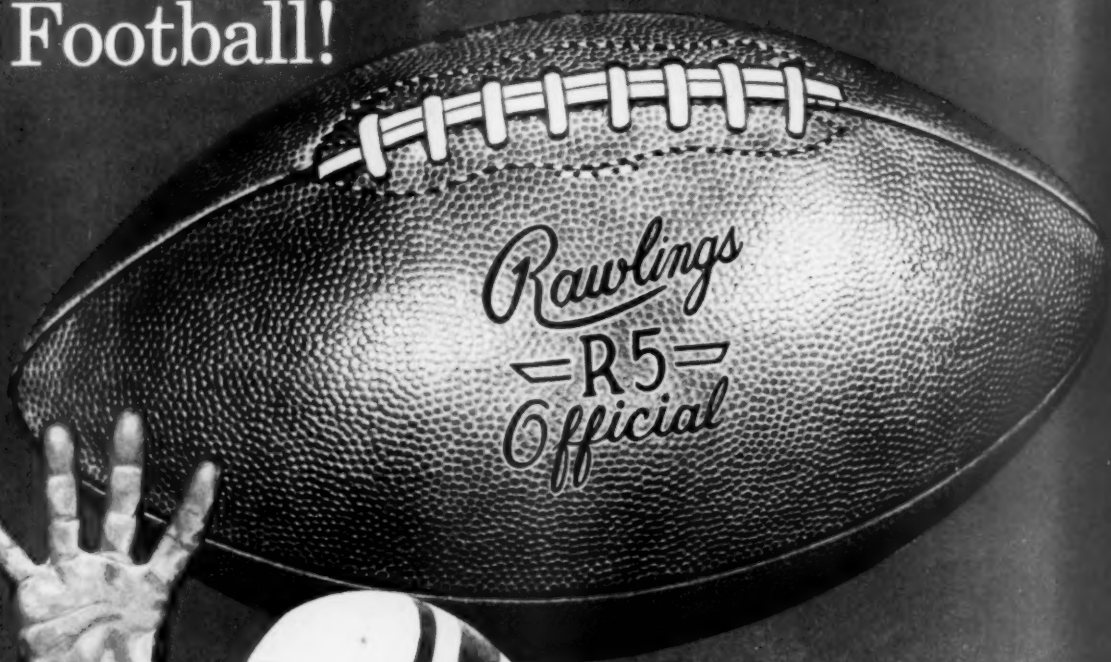
VOL. XXXVII No. 6

February, 1957

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ATHLETIC JOURNAL

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FRONT COVER ILLUSTRATION

To set the stage for our three bunting articles, we called on the Athletic Institute for a picture from their booklet, "How to Improve Your Baseball." The bunter's body is slightly crouched, his head is up, and his eyes are on the ball. The three articles appear on pages 10, 26, and 28.

A Look At This Issue and a Glance Ahead

BUNTING is one of the most important phases of the game of baseball; however, a comparatively small amount of material has been written about it. We have tried to show by photos and cartoon-type drawings the proper techniques. In addition to the three bunting articles, there are two other baseball articles in this issue. For the track coaches, we are continuing our picture coverage of some of America's Olympic performers. This month's

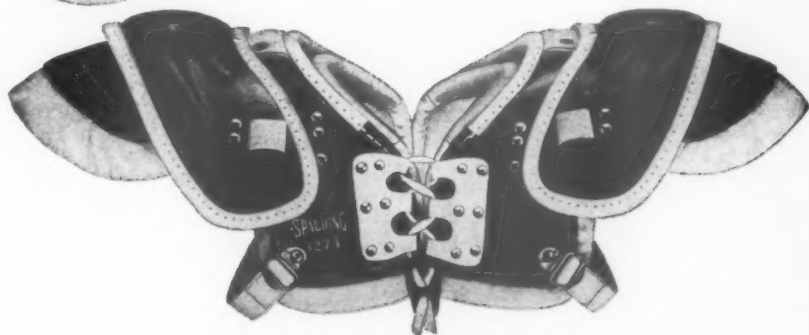
issue features Bill Neider and Greg Bell. Next month our fourth "For Your Bulletin Board" feature appears and will cover the various relay exchanges. Some unusual pole vault pictures will accompany Don Canham's article on the event. For the benefit of the football coaches, articles on their sport start again. Dr. Cureton is preparing an article for our use on training procedures of Olympic athletes.

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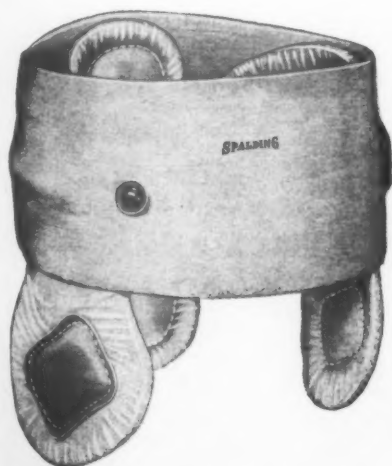
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from here
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WHEN pointing out outstanding coaching records, it is hard to overlook the one compiled by Charles Pond, University of Illinois gymnastic coach. In eight years of coaching his teams have won seven conference championships, finishing second the other year. In the NCAA championships, his teams have finished first three times, second three times, and third twice . . . In 28 years of Big Six-Big Seven basketball competition, the conference champion had both the best offensive and best defensive averages eight times. Five times when there were co-champions, one co-champion would have the best offensive average and the other co-champion the best defensive average. In other years the offensive leader was champion four times and the defensive leader was champion eight times. In only three years did the champion fail to compile either the best offensive or defensive average . . . Judging by the Associated Press' annual poll the Big Ten, Missouri Valley, and Southeast Conferences are the toughest basketball-wise. Over the last eight years Big Ten schools have been listed among the first ten 12 times. The Missouri Valley Conference had 11 listings and there have been 10 from the Southeast Conference. There is a big drop then to the Pacific Coast Conference with five listings for its members.

THE latest sport to be added to the school curriculum is curling which is gaining favor in the northern states. Wisconsin has had four meets or bonspiels as they are properly called . . . Due to ill health Art Griffith, whose Oklahoma A. & M. wrestling teams have been NCAA champions the past three years, has retired from active coaching. He has been succeeded by Myron Roderick, national champion three times and a member of the 1956 Olympic team . . . Art Hyatt, director of athletics at Skaneateles, New York, High School, is governor of his district in Rotary International . . . Anna Nichols, the director of women's phys-

ical education at Brandeis University, is also coach of the men's swimming team . . . In this day of high basketball scoring, Adolph Rupp has had 100 points scored against his team only once. Johnny Dee holds the distinction of being the one coach to turn the trick. His Alabama team of last year ran up 117 points in the conference championship game. Dee is now coaching in the National Industrial Basketball League . . . Ohio State and Michigan are deadly football rivals, as any follower of the game will agree, but get a load of this. Over the past nine seasons their conference records read as follows: Michigan (40-15-2, percentage .719); Ohio State (40-15-3, percentage .715). In addition, each school has won two championships and tied for another . . . Carl Kopelk, new commissioner of the Kansas High School Activities Association, served as coach and athletic director at McPherson, Kansas, High School for eighteen years before joining the Kansas Association in 1947. He succeeds E. A. Thomas who retired recently. John Roberts, the head football coach and wrestling coach at Stevens Point (Wisc.) State College, has been elected to succeed Cliff Fagan as secretary of the Wisconsin High School Athletic Association.

EIGHT-MAN football continues to increase in popularity. Seven conferences in South Dakota that formerly played the six-man game have adopted the newer game . . . The hard luck story of the year belongs to the coach who felt that several of his team's successful field goal attempts had been ruled not over and insisted on putting 10-foot extensions on the goal posts. His team's first subsequent field goal attempt hit dead center on one of the extended posts and caromed off . . . Frank Broyles, newly appointed football coach at Missouri, has four sons and shortly after the youngest was born a sports writer commented to Mrs. Broyles that Frank liked the game of football

(Continued on page 57)

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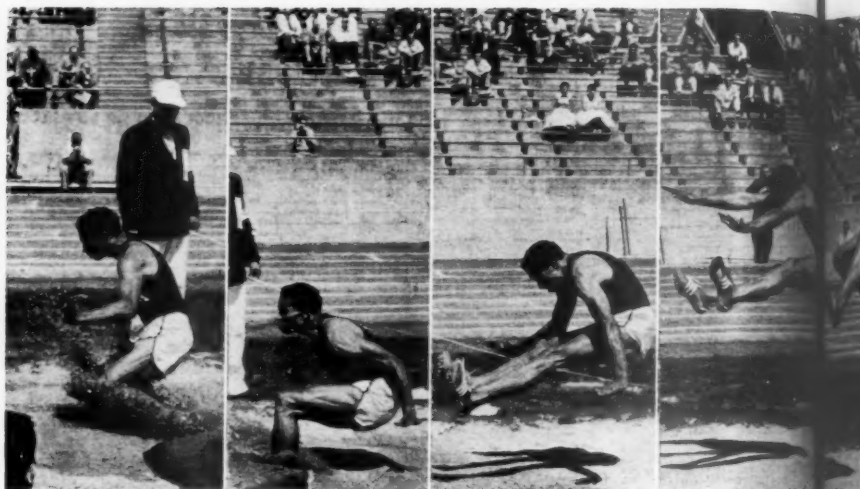
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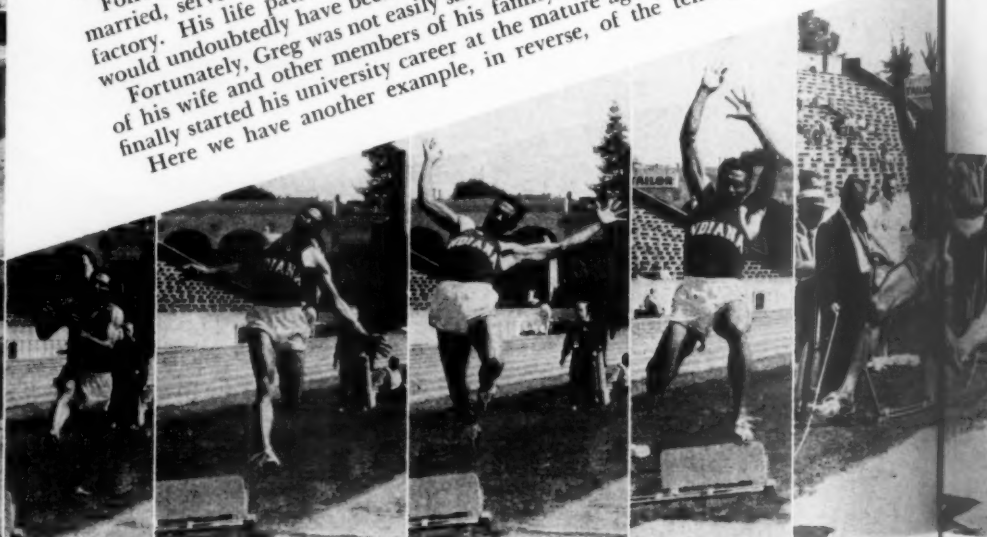
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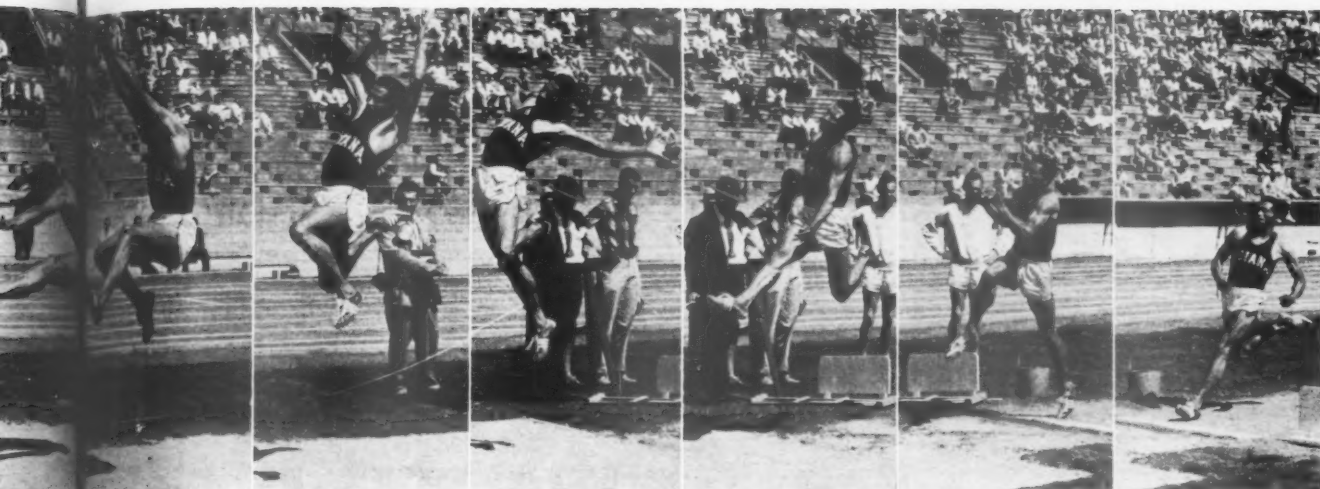
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GREG BELL started his athletic career in high school in a normal progression, but from that point he certainly did not follow the usual order of School in Terre Haute, Indiana. Greg was a small boy who had a good deal of natural coordination; therefore, it was natural for him to be attracted to pole vaulting. If he had not been injured, it is quite likely that his major effort would have continued to go in the direction of *up* instead of *forward*. As a result of his injury, Greg and his coach decided to give broad jumping a trial. Although his remaining time in high school and his opportunity for competition were limited, Greg made excellent progress, advancing to a point where he jumped better than 22 feet for second place in the Indiana High School State Championships his senior year.

Following graduation from Garfield High School, Greg worked in a factory, married, served in our armed forces, returned home, and again worked in a factory. His life pattern seemed to be established, and for most people this would undoubtedly have been true.

Fortunately, Greg was not easily satisfied. With the encouragement and help of his wife and other members of his family, as well as numerous friends, he finally started his university career at the mature age of twenty-four years. Here we have another example, in reverse, of the tendency of American





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athletes to complete their competition too early in life. Between his high school and university years Greg maintained good physical condition through a combination of clean living and healthful exercising. Now he is profiting from those years, and is enjoying the extra strength and agility that has come with added maturity.

Greg lacks some of the qualities that are generally regarded as being important for a champion broad jumper. He is only 5 feet, 8½ inches tall, and has shown a sprinting ability of between 9.7 and 9.9 in the hundred yard dash. Most of the top-ranking broad jumpers have been taller and many of them have been faster. However, we think that very few, if any, have been as fast as Greg at pay-off time on the runway.

Bell runs a total distance of approximately 145 feet with only one definite check mark at approximately 120 to 121 feet. This mark is altered somewhat as conditions vary on different competition days. He takes about four strides before he hits his check mark and aims to hit it regularly with full effort striding. His full effort run is maintained until he is about 50 to 60 feet away from the take-off, at which time he stresses the idea of relaxing, or of maintaining his acquired speed without continued maximum effort.

The theory behind this method of approach is relatively simple, and it is as follows: First, in order to get a maximum speed at the time of take-off the jumper must have as few disconcerting check marks as possible, in line

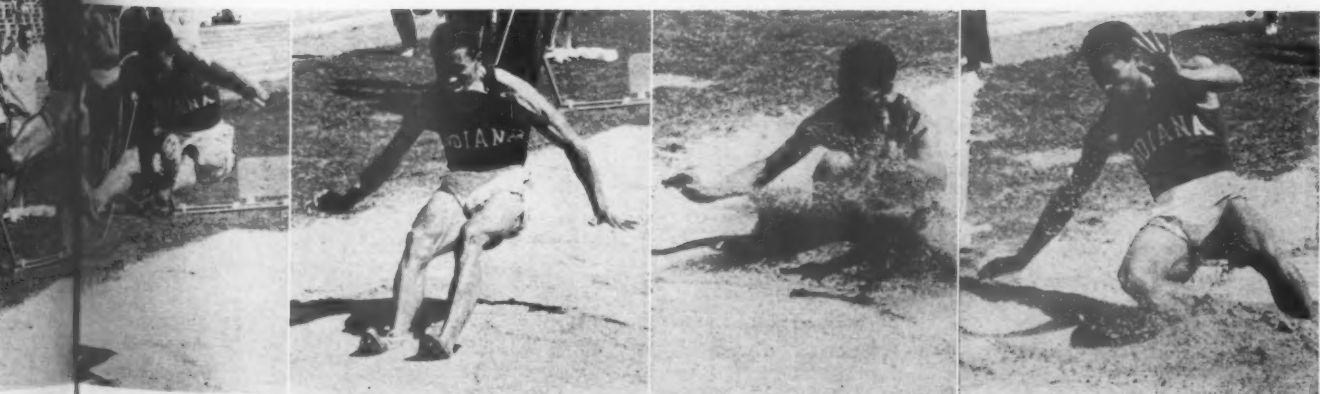
with his ability to control his run, and with the added provision that his last check mark, or as in this case his only one, should be as far as possible from the board. Second, if the jumper is going to have his body in condition or position to propel himself efficiently from the board, he must not be tensed up due to expending a hard running effort immediately preceding his take-off.

As Greg approaches the board, his vision is centered on it, until he is about two or three strides away. At this point he aims to look up, and probably the only time he does not do so is when he is having a bad day with the board.

A great broad jumper must do three things well. He must hit take-off at
(Continued on page 54)

Greg Bell—Olympic Champion

BY GORDON FISHER
Track Coach, Indiana University



Modern Shot Put Technique

By JACK WARNER

Track Coach, Colgate University

WILLIAM H. "Bill" Nieder, the great University of Kansas shot putter, who was the second man in history to surpass the once believed impossible 60 feet and the first collegian to achieve the distance, overcame a great obstacle on his way to becoming the second greatest shot putter in the world.

The 6 foot, 2 inch, 220 pound missile man, had all the qualities necessary in order to become a great football center for Kansas when his right knee was injured early in his first varsity game against Texas Christian in 1953. This tragic accident brought an abrupt end to his football career. The attending doctors feared that Bill would never walk again without a limp, so great was the damage to the cartilages of his knee. An operation

followed and 44 stitches were taken to complete the patchwork. However, Bill was not about to call a halt to such a bright athletic future and set out under his track coach, Bill Easton, to achieve greatness as a shot putter. He was no stranger to the shot ring, having held the national scholastic shot put record of 60 feet, 9 $\frac{3}{8}$ inches, while a student at Memorial High School in Lawrence, Kansas.

Constant work on the injured knee by Coach Easton and trainer, Dean Nesmith, brought about vast improvement and now Bill can bend his leg about 90 degrees but no further. As a sophomore, he hit 52 feet, 9 inches, as a junior 57 feet, 11 inches, to win the 1955 NCAA title, and a great 60 feet, 3 $\frac{3}{4}$ inches, in winning the 1956 Big Seven crown as a senior. Bill has put

the shot over 60 feet twice with a toss of 60 feet, 3 inches, in a dual with Oklahoma A.&M. on April 14, 1956 and the Big Seven effort on May 17, 1956. After a foul 60 feet, $\frac{1}{4}$ inches, in the Texas Relays on April 6, 1956, he came back to win with 59 feet, 9 inches.

After the heat of the competition with Parry O'Brien in the Kansas Relays, when he achieved 59 feet, 7 $\frac{1}{2}$ inches, Bill stepped into the ring and tossed the iron ball 60 feet, 11 $\frac{1}{2}$ inches.

The accompanying illustrations show Nieder's 60 feet, 3 inch, put in a dual meet against Oklahoma A.&M. (The smaller pictures are of Parry O'Brien and are reductions of those appearing on pages 24 and 25 of the January issue. Editor's Note.)

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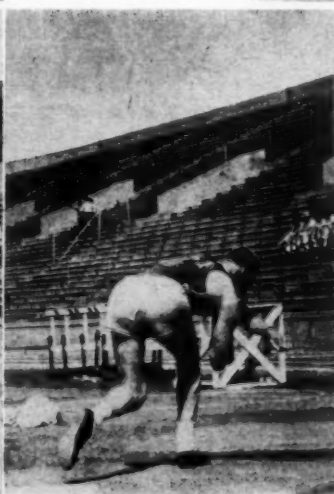
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In Illustration 1, Nieder is shown in his initial stance at the rear of the circle. His back is toward the direction of the put. He is relaxed and his body weight is supported mainly by his right leg. Bill's right foot points at an angle of approximately 20 degrees to the left. His left leg is relaxed, and the toes of his left foot are touching the ground about 12 inches behind and eight inches to the left of his right foot. Nieder's left leg and foot are used as an aid to body balance.

The shot is held in the fingers of his right hand. Bill's right arm is flexed and abducted approximately 30 degrees, and his elbow is about eight inches from his hip. His right shoulder is about six inches lower than his left. Nieder's left arm is partially flexed and abducted approximately 120 degrees. His left hand is held at head height. He faces directly to the rear, and his eyes are focused on a point about 10 yards behind the circle.

Nieder is now executing the *dip* over his right knee (Illustration 2). As his weight centers over the ball of the foot, his right heel is off the ground. Bill's left leg, which is partially flexed, is raised to the rear. The sole of his left foot is up and his knee is pointing toward the ground. His trunk is flexed forward and his right leg is beginning to flex for the dip over his right knee. Nieder's left arm is held across the front of his shoulders as his spine is flexed laterally to the right. At this point his

right elbow is directly beneath the shot and approximately six inches from his right knee. His eyes remain focused on a point about 10 yards behind the ring.

Illustration 3 shows Bill at just about the completion of the dip. Now his right foot is flat on the ground; his left leg is flexed 90 degrees, and lowered so that the toes of his foot almost touch the ground. His back is almost parallel to the ground. Nieder's spine is still flexed laterally to the right. His right shoulder is slightly lower than his left. Bill's right upper arm is perpendicular to the circle, and his elbow is approximately four inches from his right knee. His right forearm is held directly under the shot. His left arm is still in a position across his body in front of his shoulders. Nieder's right leg is flexed deeper and is still supporting his body weight. His hips are perpendicular to the line of flight.

In Illustration 4, Nieder is shown as he is bringing his left leg slightly forward immediately prior to kicking it back towards the toeboard. His leg is semi-flexed, and his toes are approximately three inches off the ground and pointing toward the ground. During this *hitch*, his left knee is brought forward from six to 12 inches. Then the kick to the rear is started. Bill's spine is not quite parallel to the ground. His left arm is across his body, and his trunk is still flexed laterally to the right. His right upper arm is still perpendicular to the circle

and his forearm is held under the shot. Nieder's eyes are still focused on a point behind the ring.

Illustration 5 shows Nieder at the completion of the shift. Again his body weight is over his right leg and foot. Now Bill's right foot is pointing to the left about 30 degrees. His left leg is partially flexed and his foot is moving toward the toeboard. Nieder's right arm is still down and under the shot. If he were to drop the shot in the ring at this point, it would just graze the outside of his right foot. His left arm is still across his body. The lateral flexion of his spine has remained the same and will contribute much added power to the delivery. Bill is still trying to keep his eyes focused behind the circle.

In Illustration 6, Nieder is shown as he starts the explosive action of the delivery. As his foot pivots counterclockwise on the ball, he is starting the drive off his right foot. His left leg is also partially flexed. Bill's left foot is at the toeboard about one foot to the left of the center. His spine is still flexed laterally to the right and in an instant the relaxed muscles of his left side and back will contract vigorously, adding their power to the put. His left upper arm is now in line with his shoulders. His right arm and shoulder are still back. Nieder's forearm and elbow are down and directly behind the shot.

Illustration 7 shows Nieder's position an instant after he released the

(Continued on page 61)

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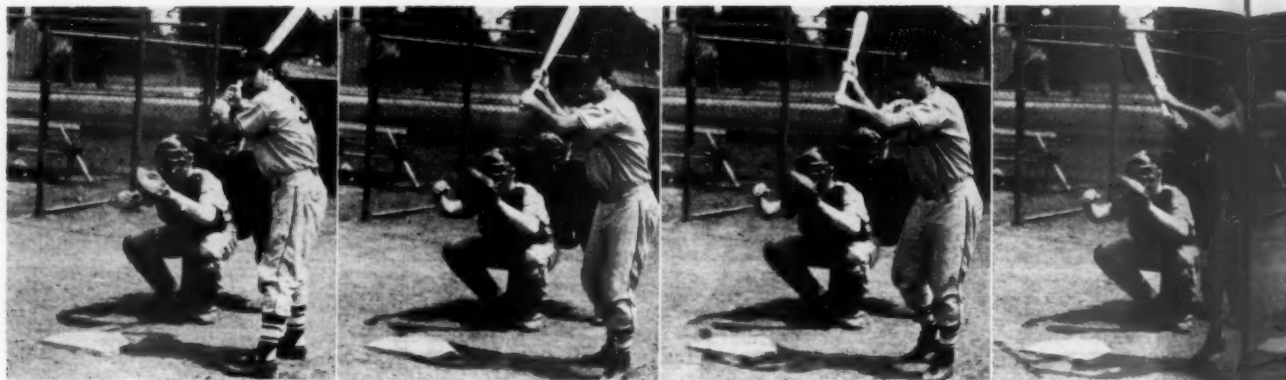


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Bunting

BY C. J. KRISTUFEK

Assistant to the Athletic Director, University of Illinois, Chicago, Illinois

THERE are two types of bunts—a sacrifice bunt and a bunt for a base hit. The sacrifice bunt is exactly what the name implies. When executing this bunt, the batter is not concerned about reaching first base until he completes the bunt. On the other hand, the purpose of the bunt for a base hit is to reach first base safely.

Sacrifice Bunt

There are two methods of holding the bat when executing a sacrifice bunt. One method is to move both hands up near the middle of the bat (on or just below the trademark) as the pitcher begins his delivery (Series A). The other method is to move only the top hand to the trademark as the pitcher begins his delivery (Series B

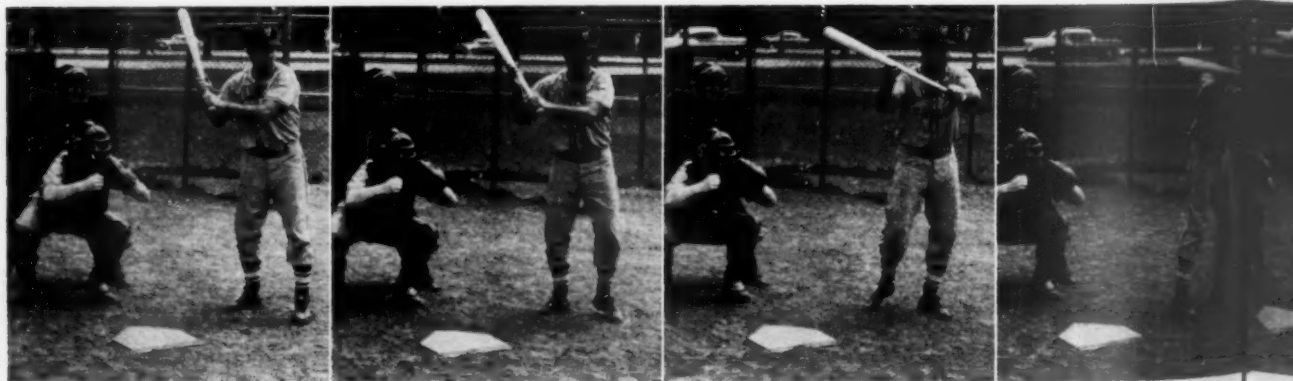
and C). Since it is faster to readjust just one hand, most batters prefer the latter method. When using the first method, the hands slide up the bat and are gripped in the same position as they are when swinging. In the latter method, the bottom hand employs the same grip position that is used when swinging but the top hand is gripped differently. The top hand holds the bat between the thumb, which is held on the top part of the barrel, and the forefinger and second finger, which are held on the bottom of the barrel with the other fingers curled underneath. However, the top hand may, if preferred, grip the bat between the thumb (on top) and the first and second joints of all the fingers (on the bottom). In any event, the

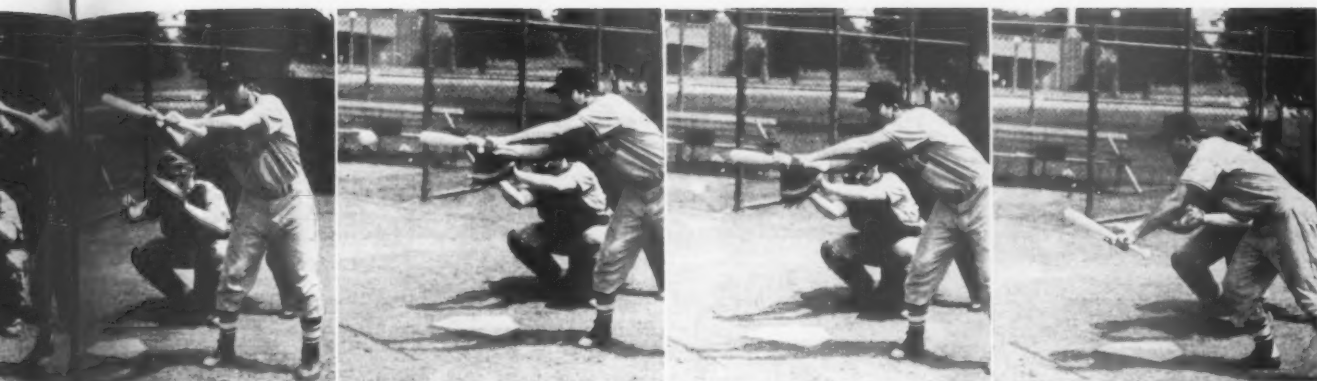
bat is always held loosely with both hands in order to prevent bunting the ball too hard.

Before bunting, the batter often moves forward in the batter's box so he is in front of the plate. In this position, he has a better chance of bunting the ball into fair territory. However, if the pitcher has a very good fast ball, it may be to the advantage of the batter to stand farther back in the batter's box so he may have a little more time to watch the ball.

The batter's feet may remain in the same alignment as they are when hitting the ball or they may be shifted to permit the batter to face the pitcher. The former position does not tip off the play as early as the latter position and the possibility of being called out for stepping on the plate is eliminated. The latter position permits better control of the bat. Furthermore, the defensive team probably will be expecting a bunt anyway. In each case, the batter is in a relaxed and well-balanced position with his knees and hips slightly bent. His feet are spread comfortably with his weight distributed almost equally on the balls of his feet. His head is facing the pitcher and his eyes are on the ball.

The bunter who does not alter his





Series A

This series shows a sacrifice bunt directed toward first base. In

this method of gripping the bat, both hands move up the bat to just below the trademark as the pitcher begins his delivery. The batter's front foot pivots toward the pitcher and his rear foot moves forward. At impact, the bat is parallel to the ground.

foot position turns his hips in, in order to get the bat around and to set himself for the bunt. The bunter who squares around by shifting his feet

worry about stepping on the plate and, consequently, he can step backward far enough to face the pitcher completely with both feet approxi-

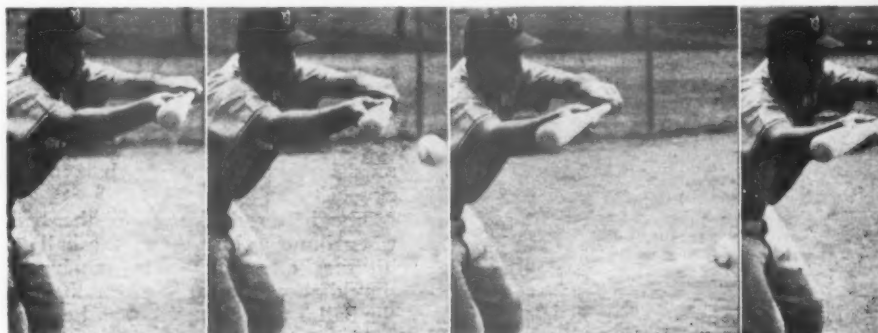
in the batter's box.

The batter's arms are held high and forward, but not rigid (Series C). It is much easier to drop the bat to meet



Series C

In these close-up shots, Illustration 1 shows that the batter is using the method of gripping the bat employed in Series B. His top hand has been moved to the trademark and the bat is gripped with his thumb on top and his fingers on the bottom. The bat is held loosely and is parallel to the ground. The batter's arms are held high and forward, but not rigid, and his body is well-balanced and relaxed. After meeting the ball, the bat gives as though the bunter were catching the ball on the bat.



may take a short step forward with his right foot, being careful not to step on the plate, or he may take a step backward with his front foot. If he steps back with his front foot, he need not

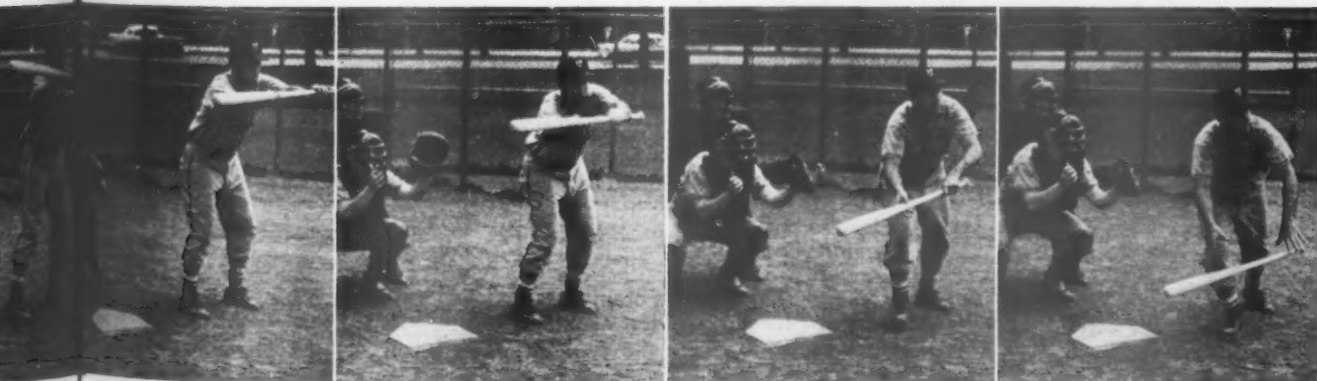
mately on the same line. In this case, his weight is carried slightly more on the leg nearest the plate. The disadvantage in stepping back is the deeper position in which the batter is placed

a low pitch than it is to raise it for a high pitch. Furthermore, by carrying the bat about shoulder height, the batter knows that any ball pitched higher than the level of his bat is a ball and

Series B

In this series the bunter is laying a sacrifice bunt down the third

baseline. He is using the second method of gripping the bat, whereby only his top hand moves up the bat. As the pitcher delivers, the batter steps back with his front foot and then forward with his rear foot. His feet are at right angles to the pitch.



Series D - Push Bunt by a Right Hander

This series shows a push bunt for a base hit by a right-handed batter. He conceals his intention of bunting until the pitch has started on its way. The grip is modified by sliding the hands about a third of the way up the bat. As the ball nears the plate, the batter steps back with his rear foot. This produces a lean toward first base as the bat is brought down and forward. The bat meets the ball in front of the batter's body. His left hand is a little further forward than his right in order to place the ball toward the

right side of the diamond. The batter follows the ball with his eyes, and at the moment of impact the bat is parallel to the ground. As soon as the bat meets the ball, the batter drives hard off his rear foot and begins moving toward first base. The seventh illustration shows the completion of the first step. Notice that the bat is in almost the same position as it was at the time of meeting the ball. The bat is not thrown but is dropped in front of the plate.

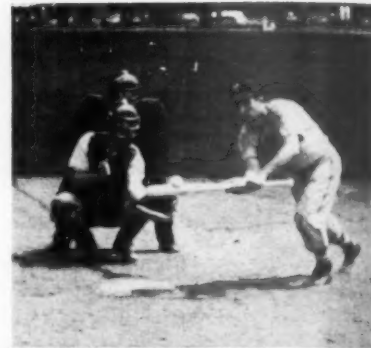


he need not attempt the bunt. What is more, most pitchers will throw the ball high when a bunt is expected. Unless the bat is held high, a pop fly might be the result. By keeping his arms out, the batter is able to follow the ball more closely as it nears the bat. He is also more likely to bunt the ball into fair territory. In addition, when the batter holds the bat forward in preparation for bunting, he is more certain of meeting the ball without swinging; in fact, he is in a position to *give* with the ball.

The bat is held parallel to the ground at all times. A batter who tips his bat as he bunts is likely to get only a piece of the ball and, as a result, often fouls the pitch or pops out. When bunting a low pitch, the batter bends more at the knees and hips to get closer to the ball. This movement permits him to follow the ball more closely.

The batter does not hit the ball when bunting but allows the ball to hit the bat. If anything, the batter should allow the bat to give a little as the ball is met, just as though he were catching the ball with the bat. A ball bunted properly has little momentum and rolls toward first base or third base.

The direction in which the ball rolls depends upon the angle at which the bat is held. If the batter wants to place the ball down the first baseline, he holds his left hand a little more forward than his right hand. If he wants to place the ball down the third baseline, he holds his right hand farther forward. As stated previously, the bat is always held parallel to the ground. Of course, the ball must be bunted on the ground and not into

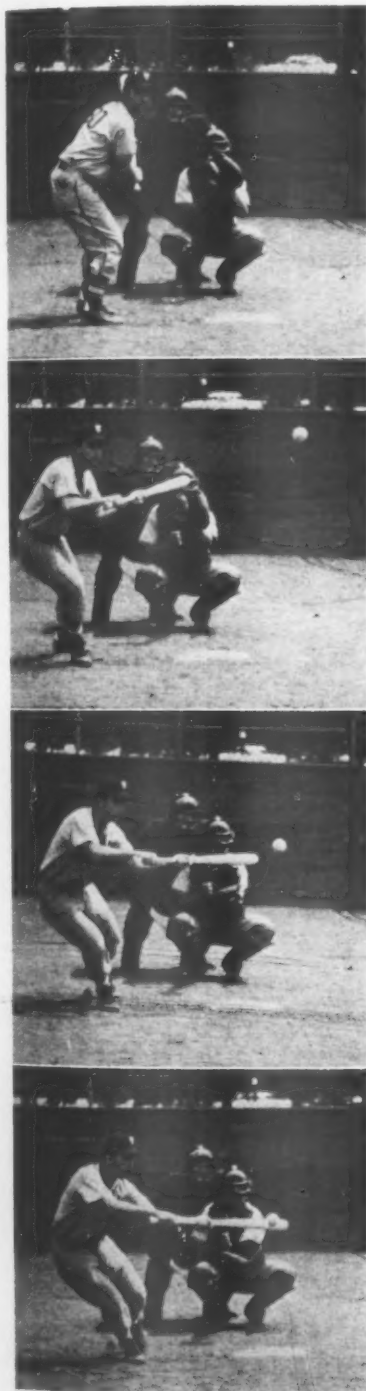


CHUCK KRISTUFEK played at Illinois, graduating in 1949. Then he played minor league baseball for three years before becoming active in the administration of youth baseball in the Chicago area. At present he is preparing a text on baseball.

Series E - Push Bunt by a Left Hander

Series E shows a drop bunt for a base hit by a left-handed batter. As in every instance of bunting for a base hit, the bunter conceals his intentions as long as possible. The bunter slides his top hand approximately a third of the way up the bat. He holds the bat behind his forward leg. As the bat is brought down and forward, the batter starts his lean toward first base. Illustration 3 shows the bat parallel to the ground with the batter's right hand a little forward of his left. At the moment of impact his rear foot

has left the ground and started the cross-over step. Notice that the bunter does not square away but starts to run from his original batting position as he bunts. As soon as the first step is completed, the bunter releases his grip on the bat and merely lets it drop to the ground. He does not waste energy or time in throwing the bat. Compare Illustration 7 with Illustration D7 on the preceding page and notice the advantage which a left-handed batter has.



the air. In order to do this, the batter must be certain to meet the ball on the center or lower part of the bat barrel (Series C).

When given the sign for a sacrifice bunt, the batter bunts only if the ball is in the strike zone. He should not go after bad pitches. The only time the batter has to bunt, regardless of where the ball is pitched, is on a suicide squeeze play or on a run-and-bunt play. These latter plays are not very common.

A batter can help prevent the defense from *ganging-up* on him by hiding his intention to bunt until the last practical moment. However, he cannot wait too long or he will be moving forward while meeting the ball. This will result in a hard bunted ball which, in turn, often leads to the put-out of the base-runner. A good time for the batter to adjust himself for the bunt is just before the ball leaves the pitcher's hand. Then the batter can concentrate entirely on meeting the ball. After the ball is bunted, and only after, the batter runs as hard as he can toward first base.

Since the base-runner has a lead, the sacrifice bunt need not be placed as perfectly as a bunt for a base hit. However, the sacrifice bunt ought to be placed in the direction where the defense is the poorest. For example, with a man on first base, the smart bunter places the ball toward first base because he knows the first baseman must hold the runner close to the bag and, consequently, cannot charge toward home as early as the third baseman. On the other hand, the smart batter bunts the ball toward the third baseman and harder than usual when a runner is on second base. The third baseman is forced to field the bunt and the base-runner is assured of third base.

Bunt for a Base Hit

In the bunt for a base hit, the surprise element is very important. Consequently, the batter cannot tip off his intentions until the last possible moment. The bunt for the base hit must also be very well placed. In addition,

(Continued on page 59)



The Use of Exercises ifr

THE uses of exercises are many; every athlete and coach has his favorites. Some are good, some are better, some are definitely harmful. It is up to the coach to determine to what use he will put exercises, and which of the many different movements will be used.

In track and field athletics, exercises serve two primary purposes: warm-up and muscle building. When used to warm up, exercises are not thought of as part of the athlete's workout, but as a prelude to it. When used to build muscle, calisthenics are an integral part of the workout. In warming up, it is the athlete and coach who decide how much and which movements to use. When muscle building is the concern, it is the event for which the boy is preparing which dictates the particular move-

ments; the individual capacity and state of training of the athlete decide the amount. It is generally agreed that while warm-up exercises precede the day's workout, strength or muscle-building exercises should follow it. While warm-up work is generally stretch, muscle building is usually strain and will fatigue the muscles to the point where additional hard work is almost impossible. The general method of warming up for track and field events is similar throughout the sport, while the muscle-building work is different for each event, especially in the field events where exercises are specifically designed around the muscles used on the runway, in the circle or in the pit.

Looking closely at the warm-up group we see that the exercises used are, at first, slow stretching movements.

Fast movements, if not built up gradually can pull muscles, and fast snapping or explosive movements can cause painful strains. Similarly, no force should be used in stretching the muscles beyond the force inherent in the athlete's own body weight. Thus in touching the toes, the attempt to touch should be made as the fingers near the toes, using only the body weight and the thigh flexors. A running start gained by arching the back and snapping the body downward in an attempt to reach the toes should never be used. The use of partner type movements in which one partner pushes or forces the body of the other into stretched positions is not a wise practice either. No muscle should be forced to stretch very far beyond the point that an antagonistic muscle will pull it.

BY RICHARD CALISCH

Track Coach, Maine Twp. High School, Des Plaines, Illinois

OFF-SEASON		EARLY-SEASON	IN-SEASON	EMPHASIS
Sprints (up to 220) and Hurdles	Endurance training (max. reps.) and/or speed endurance training (max. fast reps.) 2-3 days per week. Power training (light weights) 1-2 days per week.	Speed endurance training (max. fast reps.) 3-4 days per week, drop to 1 day as season approaches. Power training 1 day per week (light weights). Speed training (groups of fast reps.) 2-3 days per week increase to 4-5 as season approaches.	Speed training (groups of fast reps.) 2-3 days per week. Speed endurance training (max. fast reps.) 1 day per week.	Legs and arms. Develop rhythm to all work.
440-880 and 400 Meter Hurdles	Same as sprints.	Speed endurance training (max. fast reps.) 3-4 days per week. Drop to 2 as season nears. Power training (light weights) 1-2 days per week. Speed training (groups of fast reps.) 2-3 days per week. Increase as season approaches.	Speed training (groups of fast reps.) 3-5 days per week. Speed endurance training (max. fast reps.) 2 days per week.	Legs and arms. Abdominal muscles. Develop a rhythm to all work.
Mile	Endurance training (max. reps.) 2-3 days per week and/or speed endurance training (max. fast reps.) 2-3 days per week. Power training (light weights) 2-3 days per week.	Endurance training (max. reps.) 3 days per week. Speed training (groups of fast reps.) 2 days per week. Speed endurance training (max. fast reps.) 1-2 days per week.	Speed training (groups of fast reps.) 2 days per week. Speed endurance training (max. fast reps.) 2-3 days per week.	Same as 440-880.

Track and Field Athletics

"Muscles — are elastic only within limits. If they are extended past a certain point, elasticity is impaired. This point is called the elastic threshold and is defined as that point after which further stretching impairs the elasticity of the substance. The violation of the elastic threshold is the cause of ruptured muscles."¹

A gradually increasing program of stretching calisthenics applied slowly but vigorously can lower the elastic threshold and introduce a new suppleness into the muscles. Through a complete program of stretching exercises used every day an athlete can, over the season, extend his looseness and flexibility almost to the limit imposed by his skeletal frame. By the use of this program each day for the entire season, an athlete can assure himself that before he steps on to the track, runway or circle, his muscles

will be loose, warm, supple, and able to stand the strain which he is about to impose upon them. Without doubt, the biggest single cause of mid-season track and field injuries is faulty warm-up.

A complete warm-up consists of four phases: easy jogging until the body begins to perspire; calisthenics and exercises, gently done; more vigorous calisthenic movements; rest.² The time for each phase is left up to the discretion of the athlete, and his coach, but generally no phase should be omitted.

The first gentle stretching exercises consist of movements which slowly expand the length of a muscle toward its limit. These movements include bending, rotating, reaching, and arching. The specific muscle groups which are most in need of warm-up stretching before a workout or competition

are those which span the joints. The muscles of the back, seldom given much attention in warming up, should also be loosened up. A partial list of exercises used in this phase of the warm-up would include: ankle rotation, knee bending, hip rotation, waist rotation, arm and shoulder rotation, elbow and wrist rotation and bending, neck rotation, back arching and bending, somersaulting, hurdlers' exercises.

Of course, other exercises are good, but this list presents a typical workout. The point is that after jogging to warm up his body, the athlete must, without too much delay, begin to flex and stretch his muscles. The emphasis should be placed on the muscles to be used, i.e., runners, legs; shot putters, arms. However, the whole body must be supple if the athlete is to turn in his best performance and avoid injury.

The second calisthenic phase of the warm-up consists of the more vigorous movements. Stampfl even rec-

¹Elhardt, Walter P., *Physiological Anatomy*, St. Louis: Swift, 1946, p. 157.

²Stampfl, Franz, *On Running*, New York: MacMillan, 1955, p. 33.

	OFF-SEASON	EARLY-SEASON	IN-SEASON	EMPHASIS
Distance 2 Mile and over. Steeple- chases	Same as mile.	Endurance training (max. reps.) 4 days per week. Speed endurance training (max. fast reps.) 2 days per week.	Speed endurance training (max. fast reps.) 3-5 days per week.	Same as 440-880
Pole Vault	Endurance training (max. reps.) 1 day per week. Power training 2 days per week. Speed training (groups of fast reps.) 1 day per week.	Speed endurance training (max. fast reps.) 2-3 days per week. Speed power training (groups of fast reps. with weights) 3-4 days per week.	Speed training (groups of fast reps.) 4-7 days per week.	Arms, shoulders, legs, pectorals, abdominals and thigh flexor muscles. Develop rhythm to all training.
High Jump	Same as pole vault.	Speed endurance training (max. fast reps.) 2-3 days per week. Speed training (groups of fast reps.) 3-4 days per week.	Same as pole vault.	Legs, thighs, abdominals and thigh flexors. Develop rhythm to all training.
Shot Put, Discus, Hammer, Javelin and Weight Throw	Power training (work up to heavy weights) 3 days per week. Speed endurance training (max. fast reps.) 1 day per week.	Speed power training (groups of fast reps. with added weights) 2-3 days per week. Speed training (groups of fast reps.) 3-4 days per week.	Speed power training (fast groups of reps. with weights) 4-7 days per week. Speed training (groups of fast reps.) 1 day per week.	Arm, shoulder, back, leg, abdominals, pectorals, back (latissimus-trapezius). Develop rhythm to all training.
Broad Jump, Hop, Step and Jump	Same as pole vault.	Same as high jump, plus power training (light weights) 1-2 days per week.	Same as high jump.	Legs, back (latissimus-trapezius), abdominals, thigh flexors. Develop rhythm to all training.

ommends that broad jumps or triple jumps be used in a runner's warm-up.³ Starts from the blocks, high kicks, speedy push-ups and chins, sit-ups done rapidly, even a few tumbling motions, if the athlete is adept, all these are excellent warm-up movements.

The athlete should wear a sweat suit throughout the warm-up, even on the warmest day. Rest should not be taken in the hot sun, and during the resting phase of the warm-up the legs should be relaxed and extended in front of the runner. A shot putter would no more think of waiting between throws with his elbow doubled up and his hand tucked under his arm than an intelligent runner would consider sitting on his heels before a race or workout.

If a sensible warm-up program such as that outlined here or the one designed by the coach for his boys is followed, injuries will be reduced to a minimum and times will level out in proportion to the runner's ability rather than to his momentary physical condition as it exists just before each race.

Turning now to the muscle building aspects of exercises, a new problem faces the coach. Whereas the purpose of the warm-up calisthenics is single, to impart to the muscle a flexibility and suppleness of such a degree that the strain of the workout will not injure it, the purposes of muscle-building exercises are several. Muscles can be built in several directions. Is it a fast movement which is desired, or a slow powerful one? Is it a muscle of relatively short staying power, but with an explosive power of great degree that the coach desires to build in his athlete? Some events call for one; some, the other; some a combination of all. Certainly the muscles of a two-mile runner are different from those of a broad jumper. A program of exercises wisely chosen to further the boy's performance in a particular event is what is desired. A look at the various types of muscle which can be developed, the exercises which can develop them, and the events in which each type is necessary will point this up. It should be borne in mind, however, that regardless of which type of exercise is done the muscles concerned will grow in strength and stamina.

Endurance muscle can be developed by the use of many repetitions of the same exercise, striving each day to better the previous day's best. Muscles built in this way have superior staying power and a good degree of strength, but will not be as fast or explosive as

³Stampff, *ibid.*

muscles developed in other ways. The best exercises to use in building endurance muscle are chin-ups, push-ups, sit-ups, leg lifts, slow deep knee bends, and other exercises of this type in which the sole resistance is the weight of the athlete's own body. The chief deterrent to training in this manner is the monotony of the workout and subsequent loss of interest usually experienced by the athlete. Endurance training may be applied to most events effectively during the off- and early-season.

Power muscle is developed primarily by use of the overload principle, in which endurance training is conducted with the addition of weight. Thus repetitions of the exercise are conducted by carrying weights attached in some manner to the person or clothing. A handy device is a canvas vest equipped with pockets in which metal barbell discs can be carried. Pockets, of course, must be front and back. Good exercises include chin-ups, push-ups, sit-ups (weight held be-

DICK CALISCH competed at Illinois during the 1950, '51, and '52 seasons, and then assisted Jim Kehoe at Maryland. During his service in the marine corps he served as track coach at Camp Le Jeune. This past summer he was appointed to his present position.

hind head), leg lifts (weight strapped on ankles), deep knee bends (weight on shoulders), and others. Variations of this training may be applied.

Instead of using a standard weight and increasing repetitions which build a powerful enduring muscle, the athlete may increase the weight and use a standard number of repetitions (usually 10 to 15) which will build a more powerful, less enduring muscle. As a third alternative, both weight and repetitions may be increased by the expedient of performing the exercise in groups of 10 to 15 with light weights at first. Three groups per day are recommended with a short rest between. As the muscles grow stronger, the weight may be increased and repetitions built up to three groups of 12 to 17 each. This type of work builds a more powerful, but less enduring muscle than the other two types. The type of program to be followed is, as always, dictated primarily by the event. Power training may be used in all field events in the off- or early-season. Most running coaches do not rec-

ommend power training, except when relatively light weights are used, and then only in the off-season.

Speed muscle, with an abundance of explosive power, may be built by the use of groups of fast repetitions. Although the actual speed of muscular contraction cannot be improved very much by exercise, the forces which impede fast movement of the limbs can be minimized through a successful speed program. These forces include antagonistic muscles which are tight or incapable of relaxing, poorly established nerve paths related to the particular movements, and stiff or tight ligaments and other tissues in the joints.

A program of explosive speed movements can eliminate or minimize these factors to the extent that speed of limb movement approaches that of muscular contraction. As an example of the type of exercise used, three groups of ten chin-ups each done against a stopwatch are excellent. As a variation, the athlete may perform three groups each 15 seconds long, trying to do as many chin-ups as he can. The repetitions should be as explosive as possible; the rest between the groups should be as short as possible. The same exercises are good here: chin-ups, push-ups, sit-ups, leg lifts, etc. Deep knee bends are not recommended because of the possibility of injuring the muscles spanning the knee.

For a more powerful explosive muscle, such as that needed in the shot put, light weights may be added during the speed workout, making it a speed power workout. In all cases the repetitions should encompass from one-half to three-quarters of the maximum number of which the athlete is capable. Speed repetitions should be undertaken only after the muscles have been conditioned through an off- and early-season program of endurance and/or power work.

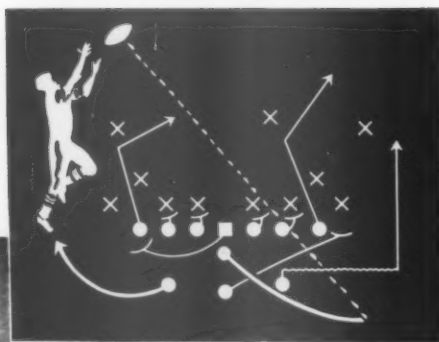
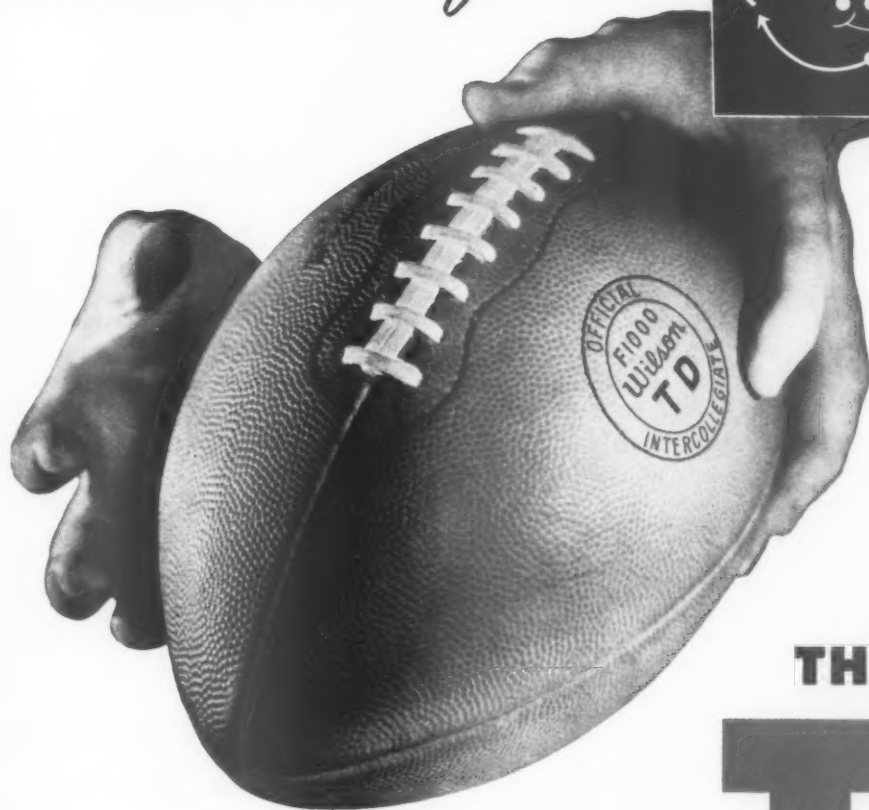
Noting now the three types of muscle which can be built, and how the exercises may be combined to produce a strong, fast muscle, or a strong enduring muscle, or in fact any combination of the three actually inseparable aspects of muscle action, it is time to turn to the particular track and field events. Let us look at each event, remembering that no matter what exercises are used muscle tone and condition will improve, but that for maximum efficiency gains certain movements are better than others. The exercises will be taken up event by event as they pertain to off-season, early-season (from the beginning of organized

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Baseball—Divided

PROFESSIONAL baseball decided to rescind the College-Professional rule which in effect prohibited a big league club from signing a college player after he had reached his sophomore year.

We feel this was an unwise decision on the part of professional baseball and hope that the leaders of "America's Pastime" will reconsider their action.

In the first place, with the number of minor leagues dwindling from a high of 59 to the present 28, baseball needs additional not fewer places in which to train its players.

The college campus has been an excellent training ground for professional baseball as attested by the fact that 30 per cent of our major league players are college men.

These players have been trained under competent coaches at no cost to professional baseball. Many of the college coaches were stars during their major league playing careers. Ethan Allen, Bib Falk, Jack Barry, Ray Fisher, Charley Gelbert, Fred Lindstrom, Dick Seibert, Tom Swayze, Jimmy Foxx, Ace Parker, and Danny Litwhiler are a few whose names immediately come to mind. There are, of course, many others who played in the higher classifications of the minor leagues. Professional baseball is unable to secure the same caliber of coaching for its lower classification leagues because of the lack of stability and low salaries to be found in these leagues.

During the late 20's and early 30's the leaders of professional baseball became alarmed at the drop in town baseball. Town baseball had been a valuable source of player talent for professional baseball. When the American Legion Junior Baseball Program was organized, professional baseball, under the leadership of Judge Landis, was instru-

mental in financing the program during its early days. Likewise baseball has lent moral if not financial support to other amateur baseball organizations such as the American Baseball Congress, Babe Ruth League, Little League, Pony League, etc. Baseball has seen in all of these organizations a source for future players within the network of organized baseball. College baseball also deserves support from organized baseball.

We feel that baseball deserves the same treatment from the professional side of the game as that accorded to football and basketball by both the National Football League and National Basketball Association.

Baseball has very wisely through the player pension fund provided for the future of its players when their playing days are over. We feel that baseball also has a moral obligation to the youth of the country. Past figures showed that about 75 per cent of the boys who left college to go into professional baseball did not possess the ability to progress up the ladder. Unfortunately, a large number fail to attend school during the off-season and upon leaving baseball either have family responsibilities or feel they are too old to pick up their college educations again.

In summary, we feel that professional baseball has taken a short-sighted point of view in regard to its dealings with college baseball. The best interests of professional baseball, college baseball, and the youth of the country demand that some agreement be worked out.

Olympic Events in the NCAA Meet—Well Maybe

THERE is a rather strong feeling among some college track coaches that the following Olympic events should be included annually in the NCAA track meet: 5,000 meters, 10,000 meters, steeplechase, intermediate hurdles, hop step and jump, and hammer throw. It was felt that by including these events in the NCAA meet our Olympic performances in the same events would improve.

We do not feel that these events can be included in the NCAA meet until the various conferences include them in their conference meets. The problem really goes back to the dual meet program. Is a boy who has been running the two mile in dual meets and in his own conference meet the latter part of May going to be ready to run over six miles the third week in June?

Let us include these events throughout the entire track season so that the NCAA meet will continue to be a meet of conference champions in twenty events instead of a meet of champions in fourteen events and a meet of unknowns in six events.



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DEVELOPING a pole vaulter in an area where the outdoor season is only 45 days long presents additional problems, and demands a concentrated training program. Because of the short season the coach must be ready to meet the problems with a well-planned program. Pole vaulters in our school have been good all-around athletes and have participated wholeheartedly in the other sports. Our problem has been to integrate pole vaulting with the other sports without interfering with the athlete's progress in that sport. During the basketball season we start to strengthen the muscles of our vaulters and take care that they do not become too tight for basketball. For this reason we have tried to develop an integrated program. We do not have gymnastic apparatus or a rope.

Because the season is short we have had to decide on a definite program and stick with it. There is very little time for experimenting especially with 11 meets scheduled in 45 days. Everything we do is recorded and the schedule is changed or adjusted the following year. For example, we have an inconvenient lay-off of 10 days between the region and state meets. Each day is planned and almost no changes have been made in four years. The vaulters have always jumped their best of the season during that meet, some by as much as 12 inches.

Before the season starts we do extended work on handstands and handstand push-ups. Several exercises with the barbells and dumbbells are used to build the leg and shoulder muscles. Toward the end of the basketball season work is increased for vaulters so their muscles are partly conditioned when the track season begins.

During the winter months the boys study movies of last year's jumps, they write to vaulters in other states for ideas and information, and read as much material on pole vaulting as they can lay their hands on.

When we feel that their muscles are capable of carrying a sufficient load, then the vaulters do the exercises for quick muscle power. When they can do 15 deep knee bends with 60 pounds of barbell weights we have them do five as quickly as they can, rest, and then repeat until they have completed 15 or 20. The same procedure is carried out with other exercises. In vaulting, the muscles must be strong and then conditioned for explosive power.

Because of the weather our first few weeks are spent in the gymnasium and in a hall. The vaulters use a hall that is 45 yards long, and are able to accomplish a great deal on their pole

carry and practice for a smooth, relaxed run. We have a straight line in the hall and try to get the boys to run along the line. Thus we have a good means of checking that part of the run.

Care of the Pole and Equipment

Our vaulters arrive at a meet with a handbag of equipment. The contents include: 1) Three markers for the runway, painted in school colors. They are forbidden to use any old stick or shoe. 2) Powder to sprinkle across the runway on the check mark if the runway is overcrowded with markers. 3) Two towels for wiping the hands and to cover the tape on rainy days. 4) White and black tape for the

tine, but the pole demands as much care as does the vaulter himself. Our poles are stored by suspending them vertically from the ceiling and are carried to the meets wrapped in a blanket and along the side of the car, not bent over the top.

At the meet the vaulters keep their poles at their resting area and away from the other poles. It is their responsibility to remind the pole catcher to do a good job. Just a word or two before the meet may save the pole, especially if there is a strong cross wind. The pole should never drop to the ground in practice or in a meet. Many poles are nicked by falling on the base of the standards when a cross wind blows them away from the catch-

Training Pole Vaulters in Northern Schools

BY GEORGE EMBRETSON

Track Coach, Montgomery, Minnesota, High School

pole. 5) A steel tape measure. 6) Blanket or canvas. Since pole vaulting lasts most of the afternoon the vaulter needs a blanket or canvas for his resting area. 7) Oranges or some other type of nourishment. In several of our meets vaulting lasts five and one-half hours and the vaulter requires some food.

Every vaulter must realize the value of an unmarked vaulting pole. He is held responsible for keeping his pole clean, taped, and free of nicks. Keeping the pole clean and taped is rou-

er. If possible, give the vaulter his own pole for the season and he will take better care of it.

Taping Methods

It is necessary to have the pole taped properly and often. There are several methods which may be used: 1) Spiral fashion with regular adhesive tape. 2) Reverse the adhesive along the area of the top hand hold. 3) Use electrician's tape on the area of the top hand hold. 4) Roll electrician's tape and apply it spiral fashion over the regular tape. We use No. 4 and think it gives the surest grip. Our vaulters are required to keep their poles neatly taped.

Before the Meet

Vaulting is a complex event and a vaulter has several things to do before he starts to jump. He must hit two check marks before he makes his first jump. He hits the first check mark which is approximately 50 feet from the take-off, and then hits his take-off mark. The coach should help the vaulter adjust his take-off mark for a given day. At Montgomery we have found that a second check mark helps

(Continued on page 55)

AFTER graduating from State Teachers College at St. Cloud, Minnesota, George Embretson coached for three years at Garden City, Minnesota, High School. Two years ago he assumed his present position. For the past three years his vaulters have won the state championship and have finished in the top three places in the district during the same period of time.

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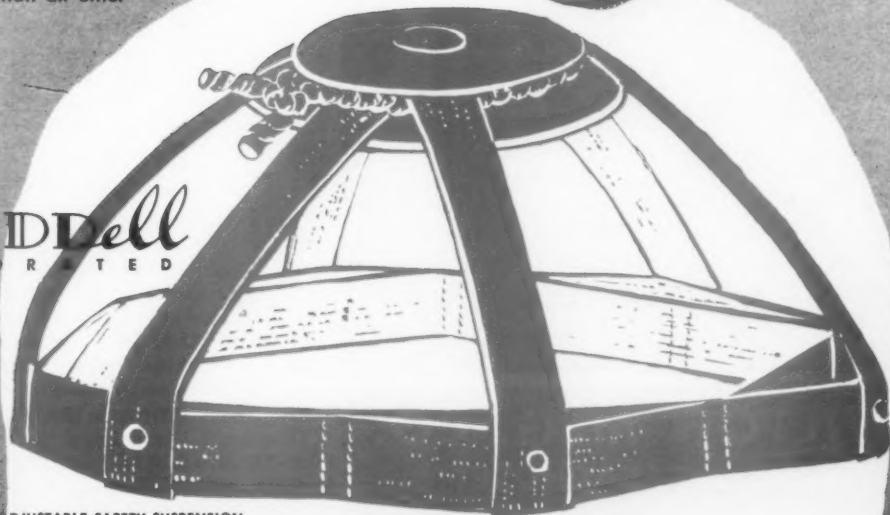
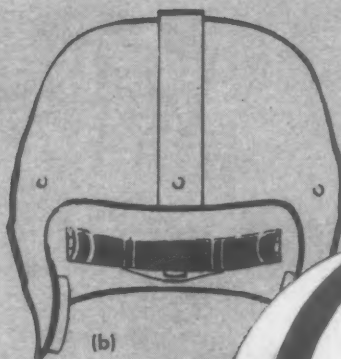
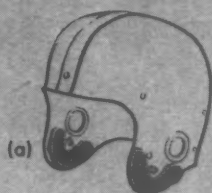
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Position Play in Soccer

BY **BRUCE L. BENNETT**

Asst. Professor of Physical Education, Ohio St. Univ.

THIS is the third article in a series designed to outline the basic fundamentals of the game of soccer for American players and coaches who are relatively unfamiliar with this internationally popular sport. The first two articles dealt with the skills of kicking, trapping, heading, and tackling and appeared in the *Athletic Journal* issues of November, 1951, and January, 1956.

The purpose of this article is to present the fundamental facts of good position play in soccer. Position play refers to the proper location and movement of players on the soccer field in the various game situations. It involves an understanding of the function of each position as a part of the overall team strategy. It also involves an appreciation of the limitations of human endurance in running over a field 120 yards by 75 yards wide for eighty-eight minutes with no time-outs permitted.

Teaching good position play is both important and difficult. It is important because it contributes to a greater interest in and appreciation of soccer. Players who learn only to run all over the field chasing an inflated ball soon lose interest in such simple sport and turn to more challenging pursuits. It is difficult because most American boys have played only this type of helter-skelter soccer in elementary or junior high school, and these habits have to be broken down and replaced with the desirable patterns of behavior. Once this has been accomplished, players develop a new admiration and love for soccer which gives them a spirit of zest and genuine satisfaction in playing the game. Each contest becomes a thrilling and challenging experience which calls upon their best physical abilities and finest intellectual capacities.

This article will be presented in two parts. The first part will give the basic facts of good position play which every player should know. The second part will outline some techniques and suggestions for the teaching of these facts.

Basic Facts of Good Position Play

A soccer team works as a unit to try to score goals while at the same time preventing the other team from scoring. Team balance between offense and defense is a necessary characteristic of a good soccer team in action. The immediate question is how each individual player can contribute most effectively to the total team effort in terms of his position and movement on the field.

A soccer team consists of eleven men who, at the start of a game, line up on the field approximately as shown in Diagram 1. Actually, if the other team kicks off, the center forward will be outside the center circle until the ball is touched. The forward line at midfield consists of five players — the outside right (OR) or right wing, the inside right (IR), the center forward (CF), the inside left (IL),



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and outside left (OL) or left wing. About 20 yards behind the forward line are the three halfbacks—the right half (RH), the center half (CH), and the left half (LH). The right and left halfbacks are sometimes referred to as the wing halves. The two fullbacks play some 20 yards behind the halfbacks or about on the forward edge of the penalty area. The two fullbacks are called the right full (RF) and the left full (LF). The goalie (G) plays in the goal mouth. For convenience and simplicity the basic facts of good position play can be discussed for the forwards, the halfbacks, the fullbacks, and the goalie, rather than for each of the eleven positions.

The primary function of the forwards is to work together and score goals. These players must be offense-minded and hungry to score. They endeavor to take the ball down the field to the opponent's goal. In order to do this effectively, it is absolutely essential that they keep spread out across the field and do their running *up and down* the field, and not back and forth *across* the field. In other words, they operate in lanes which converge slightly toward the goal as shown in Diagram 2.

The forwards try to keep abreast of each other and move forward or back as a unit as much as possible. By keeping to their respective lanes, pass patterns can be set up which will keep the defense spread out and open up scoring opportunities. If the forwards group together, then team play is lost and the defense can check the attack

BRUCE BENNETT was instrumental in organizing soccer at his institution. In the beginning, the sport was included in the program for physical education majors. Next, a soccer club was formed which competed informally with soccer clubs in neighboring institutions. Finally, soccer was adopted as an intercollegiate sport. Dr. Bennett's article a year ago was on the fundamentals of trapping and dribbling and was illustrated with Athletic Journal high-speed photos.

more easily. To illustrate more specifically, when a ball is kicked out to the left sideline or touch line, it is played by the left wing who is *already there* to receive it and continue the attack without delay. It is not played by a center forward who has to run out after the ball. A ball played down the center is taken by the center forward who is *already there* and not by a right wing running in for it.

As mentioned previously, the forwards advance right to the opponent's goal line if necessary. However, they are not expected to run the full length of the field in their lanes. When the ball has been moved to their own half of the field, the forwards come back to a point about 10 or 15 yards short of midfield in their own territory and wait for their own backs or goalie to clear the ball out to them to start another offensive drive. They form something of a semi-circle on the arc of a radius of 40 to 50 yards drawn from the goal mouth (Diagram 2). The forwards do not go back to their own goal area to help on defense. If they do, then the offensive power and speed of attack will suffer. The only defensive responsibility of the forwards is to try to back check or overtake the opponent's advance before they can get the ball beyond midfield.

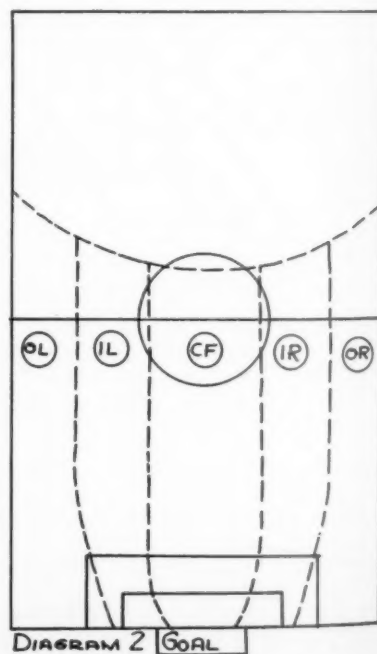
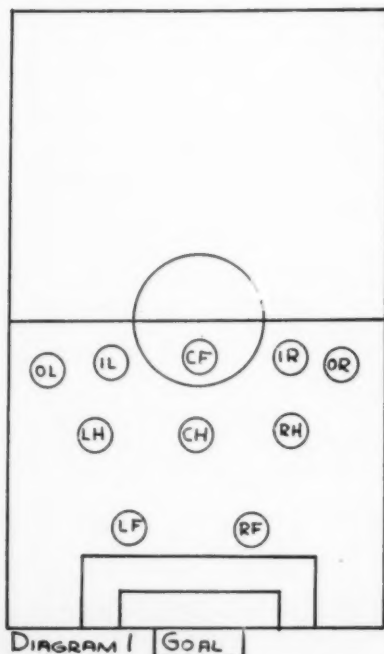
In contrast to the forward line, the three halfbacks have about equal duties on offense and defense. As a rule, they operate in lanes for their respective positions. On offense as the forwards move downfield, the halfbacks supplement the attack by moving forward also but keeping some 15 to 20 yards behind them. Thus, when the forwards are in shooting position near the goal, the halfbacks should be a little outside the penalty area (Diagram 3). From this position they can receive backward passes from the forwards and either pass in or shoot at

the goal. They may also recover a bad pass or check an interception by an opposing player. The halfbacks support the forwards and try to keep the opponents hemmed in around their own goal. This strategy is a functional application of the maxim, "A good offense is the best defense."

However, when the opponents clear the ball up field to their own forwards, then the halfbacks have to run back to assist the fullbacks on defense. The halfbacks may have to go back to their own goal to stop an enemy thrust. When the ball is kicked out to the forwards, the halfbacks must hurry up field to support the line. In addition, the right and left halfbacks generally kick in out-of-bounds balls on their respective sides of the field. The halfbacks also take most of the free kicks awarded to their team. When an out-of-bounds or free kick is taken by a halfback, the forward line should move 20 or 30 yards ahead of the ball so it can be kicked up field to them.

The primary function of the fullbacks is defensive. Their main job is to prevent opposing forwards from getting good shots on the goal. They play about 20 yards in front of the goal but drop back to protect the goal if the occasion demands. They try to secure the ball and feed it up to the wings. As a general rule, they cover their respective sides of the field and do not cross over in front of each other. On offense the fullbacks usually move up to midfield to lend addi-

(Continued on page 52)





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Bunting Teaches Balance and Confidence

BY THOMAS J. KRUPA

Baseball Coach, Hazel Park, Michigan, High School

FOR a long time we have believed that, in baseball as in all other major high school sports, balance and confidence go hand in glove, and hold the key to efficient performance. They give the ball player the poise and the versatility which can be gained in no other way. Without them, performance suffers immeasurably, and all of the secondary aims of the sport become rather clumsy and arduous undertakings.

Our contention is, that bunting, when taught properly, acts as a springboard for good, solid hitting mechanics. The method we used for four years as a college player and four seasons as a professional will be discussed. A few alterations have been made and the procedure we use now has proved to be sound and invaluable for the players. After the basic technique has been learned and applied, the players have very little difficulty grasping and executing other, much finer techniques of the hitting game, as they originate in the batter's box with every pitch.

The fundamentals are taught while we are still indoors during the early weeks of spring. If the weather is agreeable, which it seldom is in the Middle West, then some work is done outdoors.

We use the same mechanics which any coach would apply to hitting, but the following steps are the specifics: 1. Stance; 2. Grip; 3. Half Pivot; 4. Full Pivot and Splitting the Grip; and 5. Bunting the Ball.

1. *Stance.* No player is required to deviate too drastically from an accepted orthodox stance. We want a player to accept the rudiments of a good stance which are consistent with his own physique, and not something that is an unreal combination of the stances of a half dozen big league players. Above all, he must be relaxed. We want a player who is loose at the plate, and not a wooden Indian. He must have his weight balanced on

both feet, with a bit more on his back foot. He is taught to rock back and forth so that he can feel how his weight will shift from the rear foot to the front foot as he gets into position for the bunt. Through this rocking motion he develops a sense of rhythm, and digs in in a natural manner, without doing any animated scraping and burrowing with his cleats as so many high school boys have a tendency to do. They must also be relaxed mentally at all times, much as they would be in any other competitive sport at any given critical moment. All pitches are critical, and the sooner players realize it, the better. If a boy appears somewhat tense and uncomfortable, then his stance is altered so that he will have the proper feeling of confidence which grows out of a stance that is suited to him.

2. *Grip.* During the bat selecting ceremonies, after the salesman has left, the players select their bats, paying particular attention to weight, length, and the thickness of the handle. This is the best time for the coach to show the proper grip because he has the interest factor on his side. A player can learn more about the grip during this session, when he has a new bat of his own in his hands, than he sometimes will throughout the balance of the season.

Right-handed hitters take up their bats in their right hands, and left-handed hitters take up their bats in their left hands. They hold the bat waist high, with the arm out from the body and parallel to the ground. From this position they learn the weight balance of the bat when it is supported by only one hand. Then they are instructed to take a normal grip with the other hand, being careful that the trademark on the bat is facing them as it did when they held it in one hand. Now they are told to draw the bat back over their shoulders and hold it poised as though ready to hit. At this point the hitters are checked again for the various posi-

tions of their hands, arms, legs, and feet. They are told to swing the bat without taking a step forward, but are to check their swing just as it approaches the imaginary plate, and hold the pose there. This swing is repeated many times, with some of the more experienced boys observing and helping the novices. All of the most conspicuous flaws are corrected. There is no full swing. The hitters are learning the advance into the ball that is to be bunted and nothing else.

3. *The Half Pivot.* When the correct stance has been assumed, the bat is poised again, and the balance of the hitter's body is free. His arms are away from his body, his shoulders and his hips are level, and his feet have been spread naturally. Then he takes a normal stride into the imaginary ball again. In the half pivot the stride forward is used.

Emphasis is placed first on getting the bat *bunched* back over the shoulder before the pitch is delivered. By cocking his wrists slightly to permit the bat to come back, as his arms poise the bat toward the backstop, the batter is able to get the bat *bunched*. Then his front foot is planted with the toe pointing straight ahead into the diamond in a natural manner. As his front foot is planted, or planting itself, there is no drastic altering of the lines of the player's body in general. Now the bat is brought around parallel to the ground and belt high with the hands still close together in an orthodox grip. The batter has swung his body in the direction of the pitch so that he will be able to see the ball. He repeats the half pivot until he gets the feel, balance, and the confidence that all of his body is reacting as a rhythmical unit. His bat is poised, and parallel to the ground. His arms are out front, and slightly extended to give better control to the bat. Now he is ready for the next move.

4. *Pivot and Splitting the Grip.* At this point the bat is in a good position, although the player's body is not. His rear foot is brought around so that it is in line with his forward foot. Then both feet are planted to the front of the plate. If all of the instructions are followed, his feet will be in perfect position. Now the batter is actually in a slightly crouching *punch hitting* position, and his body is in perfect balance. He is facing the pitcher confidently, and is ready to bunt. His next very important move is to split his grip as he holds the bat out in front of his body. Splitting his grip is easy because he is comfortable, confident, in balance, and prepared.

(Continued on page 50)

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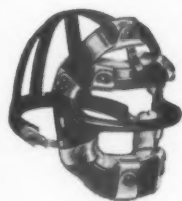
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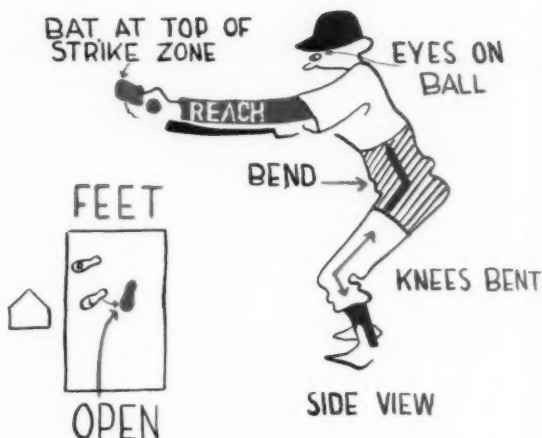
for FEBRUARY, 1957

ONE of the most frequently ignored offensive opportunities in baseball is bunt and run strategy. Many teams pass up the chance to bunt, hoping vaguely this time the batter will get *that hit*, or very often a coach, realizing his next hitter is very weak at the plate, writes him off as a loss. In either case the bunt is ignored. We have found that coaches work a great deal on pitchers, with the result that the majority of schools have an excellent pitcher, one or two hitters, and six players named *Charlie*.

With this thought in mind an offense can be built on three basic principles: 1. We know we will face good pitching. 2. We know that while we cannot develop a Ted Williams, we



NORMAL STANCE



FEET

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SIDE VIEW

The Bunt and Bunting Game

BY PHILIP R. THEIBERT

Baseball Coach, Hiram College, Hiram, Ohio

can help a boy with his hitting. 3. We can develop any boy on our squad into a competent bunter. Thus our offense will be geared to base-running, speed, and bunting, and the players will not hesitate to bunt in any situation on any count.

In teaching a player to bunt, one fact is demonstrated and emphasized. We tell him that if he drops his bat, he can catch all balls near the plate. Any ball he can catch he can bunt, and some balls which he cannot catch, he can bunt.

The mechanics are very simple. A player takes his normal stance at the plate. When the pitcher raises his arm to throw, we have the batter square away and face the pitcher. In a bunting situation the opponents know the bunt will be used. Since they know the bunt is coming, admit it, square away early, get perfect position, and lay down a perfect bunt.

In squaring away (Illustration 1), the player is told to keep his back foot anchored. He opens with his front foot, stepping with it back towards foul territory, and slightly back of its previous position (Illustration 2). We do not want his feet to be even. In the case of a right-handed hitter, his left foot should be nearer the front of the batter's box. Then the player has a better chance of bunting an outside pitch. His waist is bent (Illustration 3), and his knees are bent slightly (Il-



CATCH THE BALL



WITH THE BAT.

lustration 4). He holds the bat in front of his body (Illustration 5).

Illustration 6 shows the bat being held at the top of the strike zone. The player holds the bat this way for two reasons. He can determine a strike more accurately, and he has a better chance of bunting the ball along the ground. When going for a low ball, the lowering of the bat is accompanied by a bending of the player's waist and knees (Illustration 7).

The players are instructed to place their hands on the bat according to the balance of the bat. We insist that each boy know his bat, and know exactly where the balance point is located (Illustration 8). He is instructed to place his right hand about three inches in front of this point. In order to become accomplished in placing his hands, a player must practice with his bat. The bat is held loosely so that it

swivels and a soft bunt is insured. Notice the position of the player's fingers (Illustrations 9 and 10). He holds the bat between his thumb and index finger. He uses his left hand to aim the direction of the bat (Illustration 11).

In order to insure correct mechanics of the bunt, we have every player assume his normal hitting stance facing the mound. Then, throwing from a stretch position, the pitcher goes through the motions of pitching. The moment his arm comes up all of the batters square away. At this point the batters are instructed to freeze. The coaches walk among the players making corrections. This simple drill should be worked over at least twenty times in every practice during the first two weeks.

Once the player learns the correct stance and how to handle his bat, we



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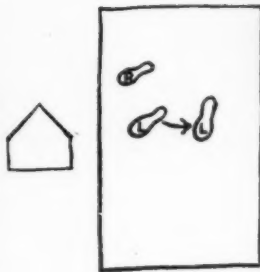


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convince him he can bunt. He is told to assume a bunting position at the plate. As the pitcher throws, the player is instructed to drop the bat and catch the ball in the hand nearest the plate (Illustration 12). If he can catch the ball without the bat, he can do the same thing while holding the bat.

Bunting is not practiced during our batting drills. A player enjoys hitting away and after the thrill of hitting three or four good drives, a bunt seems dull. As a result, we never have the players bunt during batting practices.

Bunting is a separate part of practice. We instruct the entire squad to pick up their bats and go to the plate. Then the pitcher throws from a stretch position. Each player is allowed one strike — called by the catcher. The batter must bunt this strike. If the catcher calls the pitch a strike, and the batter does not bunt it, he must run it out. In this drill the batters bunt only strikes and must run out every bunt. The previous bunter remains on first and practices his break on a sacrifice bunt. He slides into second base (Illustration 15). This drill is done for ten minutes in every practice. Then we work five minutes

on the squeeze bunt. The bunter is allowed one pitch and he must bunt the pitch. After a day or two it will be found that these are two of the best hustle drills in baseball.

In addition to these two daily drills, we add two 20-minute bunting sessions a week, during which time the players aim at targets in the different areas of the infield (Illustration 13). The run out every bunt and there is never an exception to this rule.

We use the bunt in five ways — the sacrifice, the bunt and run, the suicide squeeze, the delayed squeeze, and the double squeeze.

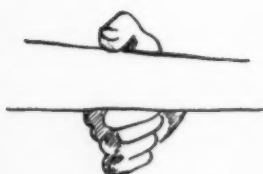
Once a player has mastered the mechanics of bunting, it is time to switch to the mental aspects in an effort to make him conscious of the bunting offense. We find that a player who is told of the offense a thousand times may remember, but a boy who comes into the locker room and sees an exaggerated cartoon of the situation is more apt to remember that particular idea. If the cartoon calls to mind a particular member of the squad by number or action, the idea is brought home more forcefully.

The hardest thing to get across to a batter is the idea of a sacrifice. No matter how much emphasis is placed

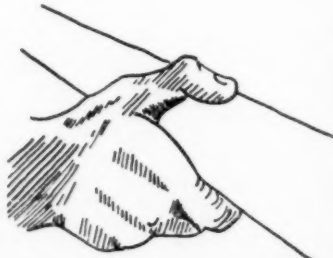
on sacrificing, we still find the batter aiming at a line, hoping he will have accomplished the sacrifice plus raising his average. This little trick will guarantee a foul ball two out of three times. As a result, sacrifice areas for a player to aim at when sacrificing have been located on the grass (Illustration 13). If the runner is on first, he aims at the areas numbered one. If a runner is on second, he aims at the area numbered two, forcing the third baseman to field the ball, thereby cutting down on the chances of a play at third.

The sacrifice is used in the early innings. A study of comparative scores shows that two thirds of the losses are one run or two run games in the low score group. We believe in getting that run. With a man on first we frequently attempt a steal, a sacrifice, and a squeeze. If possible, make the defense work. To our way of thinking, an inexperienced team is more likely to make an error on a bunt than on a routine ground ball. A defense, particularly the pitcher and infield, does not like the prospect of fielding against a running, bunting team. It creates a pressure of hurry on the defense which we feel aids the offense. We will not wipe off a sacrifice be-

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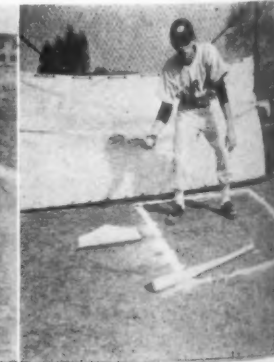
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cause the batter has a two strike count on him. A player can judge the strike zone more accurately from the bunting position and a young player has more chance of bunting a pitch than hitting it.

The bunt is used frequently with a man on first and no one out. In this situation it is a little more difficult to place the ball correctly and good judgment on the part of the runner and third base coach is necessary. The ball is aimed at the deep bunt area towards third base (Illustration 13). The batter attempts to place the bunt in this No. 2 area, making the third baseman field the ball. Then the runner on first base breaks with the pitch exactly as though he were stealing second. As he nears second, he listens for the call of the third base coach. If the coach feels that the runner can advance to third on the play, he calls him around. Usually, the runner can advance to third on the throw across the infield. Depending on the temperament of the hitter, this play can be executed in two ways. Sometimes it is a suicide *bunt and run*, requiring the batter to bunt the next pitch even if he has to stand on his nose. In other cases, the player bunts only the strikes which exploit the steal situa-

tion. If the player takes a ball and the steal is successful, we usually leave the bunt sign on and sacrifice the runner to third.

Two squeeze plays are necessary for a balanced bunting offense. However, we use the suicide squeeze nine times out of ten. With a man on third base

PHILIP THEIBERT prepared two previous articles for us while serving as baseball coach at Chadwick School, Rolling Hills, California. This past summer he was appointed baseball coach at Hiram College where he also serves as end coach in football.

and the suicide squeeze on, the runner breaks as though he were stealing home. Again the batter must bunt the ball regardless of the pitch. As stated previously, we work on bunting all pitches every practice.

The delayed squeeze is similar to a sacrifice bunt. The runner waits until the bunt is an accomplished fact and then breaks for the plate. In bunting for the squeeze, we have the batter square off a little later than on

the ordinary pitch. However, if a player has trouble in this regard he is instructed to square away early.

Perhaps our most successful weapon has been the double squeeze. With runners on second and third, the suicide squeeze sign is given. Both runners break as though stealing. The batter must bunt the ball. When the man who is fielding the ball (preferably the third baseman) throws to first base, the man from second comes home. The more advanced the brand of baseball, the more difficult this particular play becomes. It is sometimes very successful as a surprise move. At the high school level it is fairly easy to execute.

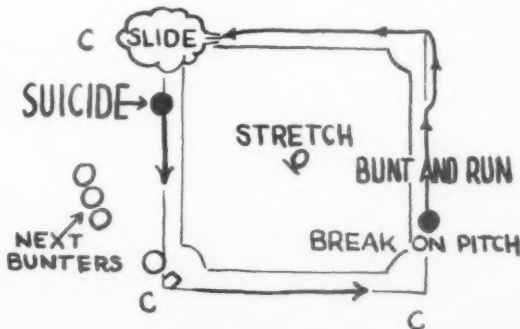
The bunt and run, the suicide squeeze or double squeeze is not attempted until we have practiced them many times. Our players are drilled on the bunt and run and squeeze during the regular *squeeze drill*. The previous bunters will be on third and first. As the man on third breaks for home on the pitcher's motion, the man on first breaks for second, practicing his stealing and *bunt and run*. He continues over to third base. The bunter becomes the first base-runner (Illustration 14).

(Continued on page 51)

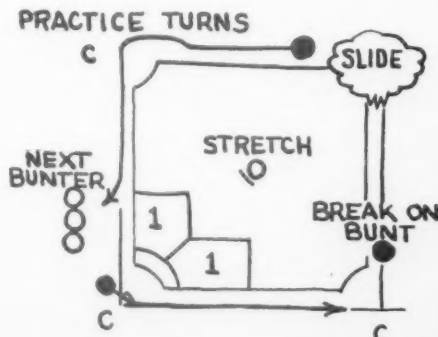
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Teaching the Crawl Stroke

BY JACK RYAN
Swimming Coach, University of Florida

THE crawl stroke is the most popular of all of our swimming strokes, whether it be in a swimming class or in competitive swimming. By using the word *popular*, we mean that more people seem to want to do the crawl stroke than any other stroke in swimming. Most classes in physical education, if given the opportunity, will select this stroke as the first one they wish to learn. Many children in attempting to swim will make crude movements which are associated with the crawl. In the present order of events in high school swimming, there are nine opportunities for crawl swimming in comparison with three opportunities for the back and breast stroke events. In collegiate circles there are nine opportunities for crawl swimming, but in butterfly, breast stroke, and backstroke only two opportunities appear. It seems, therefore, that it would be desirable for the coach to have a concise, definite, and well-thought-out method of presentation when teaching the crawl stroke.

The Leg Kick

The standard kick which is taught with the crawl stroke is termed the flutter kick and is nothing more than an alternate up and down action of the legs. We believe this kick can be best described as being similar to walking; that is, the action comes from the swimmer's hips with his knee completely relaxed. On the upward action of the leg kick and on the initial downward thrust this is true.

Comparison of the regular walking motion holds true here. As we step forward with one leg and the weight is shifted to that foot, the knee straightens but as the other leg strides forward, the knee of the opposite leg becomes relaxed. The main difference in the comparison is in the foot which in the flutter kick must be relaxed and extended so that the broad surface of the instep is catching the water to help the forward propulsion from the kick.

In teaching the kick there are other factors which must be considered, such as the position of the hips, the position of the legs and feet, and the overall position of the swimmer's body in the water.

Since the kick originates in the hips, it is important that they remain level throughout the entire action. There is, of course, muscular action taking place in the lower back and abdominal region, but the action originates at the hips. The hips must ride high near the surface of the water so that little resistance is offered.

Carrying the hips too low in the water will detract from the power that can be delivered by the large muscles in the legs and too high a carriage can add to resistance by causing the buttocks to break the surface of the water. The legs are held in an extended but relaxed position, particularly in the knee and ankle joints. A swimmer's toes are turned in toward each other in order to gain a broader kicking surface with the feet. His

body should be well up on the surface of the water with the abdominal muscles pulled in to keep the hips riding high.

In the beginning, the swimmer should be certain that he can flutter his legs properly before attempting to gain any forward progress with the kick. By using a drill whereby the swimmer holds on to the side of the pool and attempts the flutter action, he can learn to flutter his legs. He should be instructed to hold on to the scum gutter with one hand while the palm of his other hand is placed flat against the wall under the water. His fingers should be pointed downward in order to maintain his body at the proper level. This position will prevent the sagging of his abdominal area and the severe arch in his neck that would otherwise occur. In this way the swimmer should be able to obtain the *feel* of the kick, and through practice and under the watchful eye of the instructor or coach, he can be drilled in the basic movements of his legs. Here the fundamental actions basic to a proper flutter should be accomplished, such as the origin of the kick coming from the hips, the relaxing of the knee, the flexibility in the ankle joint, and the determination of the depth of both the downward and upward thrust of the swimmer's legs.

The next step is to have the swimmer attempt the kick in the prone position without the use of any device for floating. The swimmer pushes from the bottom of the pool. His head is down in the water and his arms are fully extended overhead. As soon as the prone position is obtained, the flutter action is started and continued until it becomes necessary for him to stand up. Here the swimmer is trying to accomplish in the prone position, without support, all the basic movements of the kick that he has been taught. At this point emphasis on body position is important since a faulty position could hinder the swimmer's progress to a large extent. The continual application of the basic leg movements is, of course, always being watched and analyzed.

Use of the Kick Board

The kick board has its greatest value in that the swimmer can continue to practice and strengthen his kick over a long distance without any discomfort or interruption. It is the most relaxed and least tiring of any method of practice where actual propulsion through the use of the legs is desired.

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while he is endeavoring to perfect his kick. For the learner a position too high on the board will give a false sense of body position and should be discouraged at the outset. Holding the board at the end closest to the swimmer again makes for a very uncomfortable and improper position and should also be avoided. A position that is both comfortable and will maintain a proper body carriage can be gained by placing the hands on the sides of the board and approximately in the middle of the length of the board. With his elbows extended and his abdominal muscles drawn in, the swimmer uses the board more for his convenience than for actual support. Any tendency to grip the board tightly or to place too much tension on the arms should be corrected as it will usually result in the upper part of the swimmer's body being lifted too high and the lower portion sinking too deep. In developing the kick further through the use of the board, the swimmer now concentrates on using the leg action in a rhythmic pattern so that he can kick over a certain distance without becoming too tired.

Kicking and Breathing

In crawl swimming proper timing is essential between the swimmer's arms, legs, and breathing. Many swimmers, teachers of swimming, and coaches often consider the timing mainly through the function of the arms and legs and neglect the important part that proper breathing plays in the coordination.

In order to better understand and attain a more perfect timing of the complete stroke, the swimmer should also have the ability to coordinate his breathing with his leg action alone. The accepted theory of proper and efficient crawl swimming calls for six leg beats to each revolution of the arms. While his legs take their six beats, the swimmer must inhale and exhale. In order to drill this timing into the swimmer it is necessary for him to be able to count his leg beats in a series of *three's*. For example, while he is using the kick board to strengthen his legs and practice his kicks, he should be instructed to count *one, two, three; one, two, three*, so he can establish for himself the exact rhythm of his legs. In doing this he must be certain not to slow the beat of his legs so that they are being driven up and down in a sluggish manner.

At this point the rhythm of the kick should be established and the swimmer must fit the count into the kick and not the other way around. When this rhythm of kick and count has

been established, he can discard the count and tap the board on each of the number one counts. What he is actually accomplishing by using this method of drilling is the timing between his legs and breathing. By substituting the word *turn* for the *one* count he can establish that point during the kick at which his head turns to the side to exhale while his legs continue the number two and three counts. On the second series of the three count and again substituting the word *turn* for the number *one*, he establishes the point at which inhalation is taken and his head is turned back to the center. Through practice on the kick board he will soon learn the rhythm between his legs and breathing so that he is unconsciously performing it. Establishing the correct timing will make the overall job of proper coordination of the complete stroke much easier.

In practicing the breathing and kicking, two errors usually occur. The

JACK RYAN competed at Ohio State in 1942, '43, and '47 and was a member of the All-American team in the 220, 440, and 1500 meter free style events. In 1947 he was a member of the world-record-breaking 800 yard relay team. Ryan, now in his fifth season at Florida, has seen his teams win the conference championship in 1953, '54, and '56.

first is the splitting of the swimmer's legs when his head is turned to the side. What happens is that as the swimmer turns to the breathing side he will roll his shoulders with his head. This in turn causes his hips to turn on an angle. When this happens his legs will kick out to the side instead of going straight up and down, and the pattern of the kick is disturbed. To avoid this error, emphasis should be placed on keeping the swimmer's hips from rolling and from allowing his shoulders to turn with his head. The second point which usually needs correcting is the failure on the part of the swimmer to bring his head back to the center after the breath has been taken. Care should be exercised by the coach in order to prevent this bad habit from forming, since it will inevitably carry over into the area of the coordination of the arms and breathing, and trouble will develop in stroke mechanics.

Arm Stroke

Mastering a correct arm stroke in the case of the crawl swimmer takes a great deal of concentration on his part if the basic concepts of the stroke for efficient propulsion and ease of swimming are to be established. It is true that the stroke is easily copied from simple observation, for it is nothing more than an alternate action of the arms. It can readily be observed that one arm reaches forward while the other arm is pulling beneath the water. Many of our younger swimmers are guilty of this concept of learning when they watch the champion in action. Their attention is focused mainly on the manner in which the champion recovers his arms and the method he is using on the pull or more likely the path that his arm is following beneath the surface. From this we often see the young swimmer trying desperately to flip his arms on the recovery in the same manner he has observed in his idol. However, little progress is actually being made in terms of more efficient stroking.

For a true starting point the swimmer should be taught the basic movements on land and thoroughly understand the mechanics he is trying to master. It is our opinion that in learning the arm stroke for the crawl the swimmer must know and be aware of five different points in order to master the fundamental movements. These points are: 1. Place the hand in the water directly in front of the shoulder. 2. Pull downward and back. 3. On the initial recovery lift with the shoulder. 4. On the recovery keep the hand outside the elbow. 5. On the recovery keep the hand beneath the elbow.

In analyzing these movements it is important that the swimmer understand the reason for the points outlined in order to be able to better master stroke mechanics. Then he can combine both knowledge and skill in the execution of the stroke. Let us take each part and point out the reasoning behind it.

Point 1: Place the hand in the water directly in front of the shoulder. This is the first basic fundamental and is prerequisite to the actual start of the correct pulling movement. Each time the swimmer's hand is brought forward it should be placed at the same spot in relation to his body. If his hand is brought too far over in front of his head, the tendency is for the swimmer to allow his elbow to hit the water first and subsequently the power from the arm pull is lost on the initial phase of the pull. If, on the other hand, his arm is allowed

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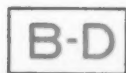
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to drop too wide or too soon, the tendency is to bend the elbow too much during the pull and sweep the arm in an arc that is too far away from his body. This movement will also cause the power from the pull to be concentrated mostly in the lower part of the swimmer's arm. By placing his hand in the water directly in front of his shoulder the swimmer is establishing a point by which he can guide himself and one which will assure him of a proper placement by allowing him to catch the water at a point

where the pull will be most efficient.

Point 2: Pull downward and back. The initial part of the pull can be described best as a pressing action of the hand and arm against the water. This press should be downward with the palm of the hand pressing toward the bottom with the fingers closed. As the shoulder extends in the forward reach of the arm, the press is made backward toward the legs in a pulling action. The importance of pulling backward should be stressed since a major tendency on the part of many swim-

mers is to cut the pull short. This movement detracts from the actual power output that the arms can produce. The exact distance the arm should pull is hard to determine in feet or inches, but it is safe to estimate the distance by saying that the hand should stop its pull as it reaches the thigh.

Point 3: On the initial recovery lift with the shoulder. As the muscles of the back are also prominent in the pulling action, the correct method of recovery is primary in importance. To attain this skill the large muscle of the back, the latissimus dorsi, and the shoulder joint do the actual lifting of the swimmer's arm on the initial part of the recovery. His arm is lifted from the water with his hand behind his elbow, which means that as his shoulder picks his arm up, his elbow must be high. It is often the case that a swimmer, after pulling back, will drop his elbow and fling his hand and arm out to the forward position. By doing this he is keeping tension on the muscles of his arm and his initial catch on the water could be too high. This is a particularly hard point for the swimmer to master and should be emphasized and practiced continuously. This action can be mastered only by land and shallow water drills where the swimmer can be watched and corrected.

Point 4: On the recovery keep the hand outside the elbow. The reason for insisting upon this point is that the swimmer will restrict the action of his back muscle and shoulder joint if he keeps his hand too close to his body. Also, holding the lower arm in this position will call for needless tension on the muscles which in turn will cause the arms to become weary or heavy. The only action which will bring the arm to the proper position in front of the body when it has been held in too close is the flinging action mentioned previously. To avoid this thrusting or flinging action we tell the swimmer to *lift and place* his arm in the water in an easy relaxed manner.

Point 5: On the recovery keep the hand beneath the elbow. Since it is important for the swimmer to get the feeling that he is going over the top of the water, we want to be certain his position remains high. By lifting the swimmer's elbow and keeping his hand down, the coach can help the swimmer accomplish this feeling. It is also true that his hand should hit the water first in order to make the proper catch for the arm pull. In fact, it can be said that throughout the entire cycle of the arm stroke, the swimmer's hand is always in a posi-

(Continued on page 51)



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Batting Strategy

BY JAMES SMILGOW

Manager, Chicago Cubs

IN the case of most young players, batting is a physical procedure of trying to swing the bat to hit a pitched ball with no other thought or plan in mind. This type of batter attempts to hit the ball regardless of the circumstances. He has had little or no experience to dictate when it is best to swing at a pitch, and why he should not swing at certain pitches. Many young batters would like to know when to work a pitcher for a walk, when to hit the first good pitch, and when to take a pitch. The basis for decisions in these problem situations is experience. It is experience backed by the judgment of managers, coaches, and players who have encountered problem situations many thousands of times. The batter should follow their conclusions, which can be interpreted through strategic rules or thinking, while he is at the plate.

In professional baseball, managers and coaches make some of these decisions through signs or signals to the batters, thus imparting strategic batting information to them. However, if all strategic information had to be signaled to each batter at the plate, batting as well as signaling would be come a highly complicated and confusing procedure. Thus, sooner or later, it becomes necessary for each batter to acquire his own strategy experience. He must also be able to put this strategy into operation through clear and straightforward thinking which is compatible with the thinking of the manager, coach, and playing

personnel so that a uniform and concentrated effort can be used to achieve maximum results.

For example, the strategic question of when to hit at the first good pitch often comes into a batter's mind. A basic rule for him to follow is to *hit the first good strike to his liking with one or more runners in a scoring position. However, when the count is three balls and no strikes, then the manager or coach should decide.*

This strategic batting rule should prevent the pitcher from getting the batter in a hole (behind in the ball and strike count). A batter who gets behind in the ball and strike count is more apt to receive a larger variety of pitches, and also more teasing pitches just off the corners of the plate. These pitches present a more difficult challenge to hit safely.

Furthermore, swinging at the first good strike increases the batter's percentage of success since he may get three swings while at the plate instead of two, one or perhaps none. Psychologically, by pursuing this rule a batter becomes more aggressive at the plate. He is in a hitting frame of mind as against a waiting frame of mind.

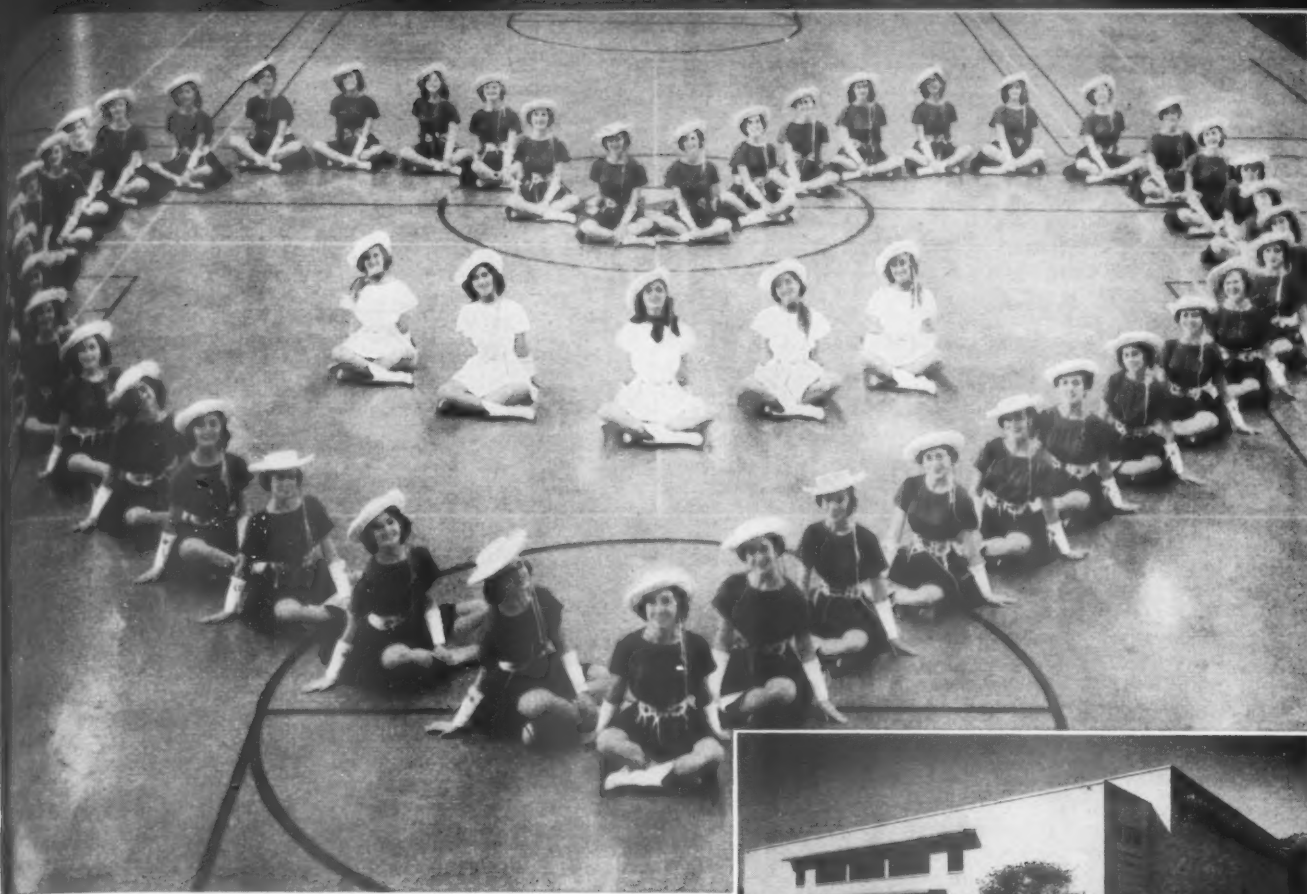
Another good strategic batting rule is as follows: *Do not hit the first pitch if the opposition is four or more runs ahead in the latter stages of a game.* Play for the breaks; play for a cluster of runs. See that the pitcher has to work harder by making him pitch more. Give the opposing pitcher

every opportunity to tire and get wild.

In following this rule the score and the inning must be considered. While one or two runs will close the scoring gap, they will not win the game in this situation. A big scoring inning will be necessary to win the game, and in order to accomplish this feat many batters will have to get on the bases.

It is best for a batter to take the first pitch if the player ahead of him has been put out by hitting the first pitch. Here the point is to prevent the opposing pitcher from having an easy inning. Should the second batter be put out by offering at the first pitch, the opposing hurler would have gained two outs on only two pitches. If the third batter in the inning is disposed of by an early or quick out, the opposing pitcher would have taken care of that inning by means of just a few pitches. Easy innings like this one would help conserve the opposing hurler's strength for later innings. It would also cut down his chances of becoming wild on the mound.

If the opposing pitcher shows an inclination to be wild, take a strike before hitting. The opposing hurler cannot be wild if the batter does not give him a chance. Have him pitch more, thus increasing his chances of becoming wild. This is also the time for the batter to take the pitch with a count of two balls and no strikes or three balls and one strike when his team is behind in the score. In this situation a count of three balls and no



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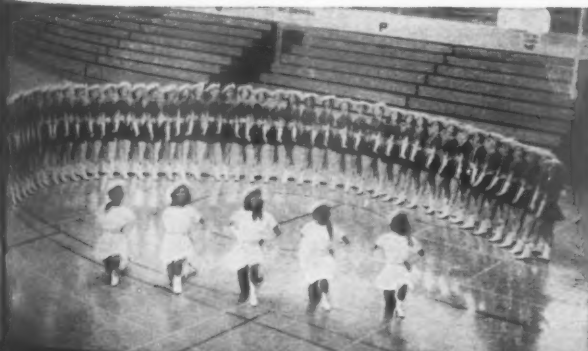
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strikes dictates an automatic take.

Always take the pitch with the count of three balls and no strikes unless told to do otherwise by the manager or coach. There are rare occasions when it is permissible and sometimes logical to swing at the next pitch. An exceptional hitter or long ball hitter might be given the green light in this instance when his team is tied or ahead in the score. With a weak hitter following, it is sometimes wise to let the batter hit away with a three balls and no strike count on him.

Be careful of bad pitches and teasing pitches just off the corners when teammates are in a scoring position with first base unoccupied. These pitches are generally used when the following batter is not a good hitter. This procedure is often followed by the opposing pitcher in professional baseball in lieu of the intentional walk. Pitchers who have good control would gamble on teasing the batter to go after a bad pitch rather than walk him intentionally. The batter's job in this situation is to maintain his actual strike zone, and not be teased into enlarging it to the pitcher's inflated proportions.

Try for a long ball or an extra base hit, with two outs and nobody on base. In this way the batter can get into a scoring position where one more hit can score him. The chances of getting three hits in a row to score a run are very slight.

A batter may go for the long ball by trying to pull the ball down his power side foul line. Moving the rear foot in closer toward home plate should open the batter's stance more and facilitate pulling the ball. A base hit close to the foul line should be good for at least two bases. This is also a good time to try to stretch a long single into a double.

Some batters go for the long ball by swinging a bit harder, but not to the extent of developing bad habits or techniques. Other batters will try for the extra base hit by uppercutting slightly on their swing into the ball. By so doing they figure to get more distance.

However, it should be pointed out that in amateur baseball, where a catcher who throws weakly is frequently encountered, and the steal of second base is a relatively simple matter, there is little need to try for the extra base hit.

With the tying or winning run on third base and none out or one out, it is sometimes wise to try for a long fly ball. This maneuver, if successful, should increase the production of the sacrifice fly and score the important

run. A hitter puts this technique into practice by using his arms more vigorously on the swing and by uppercutting slightly.

With no runner on base and less than two outs, try to beat out a bunt occasionally, particularly if the third baseman is playing deep. With less than two outs, if the bunter is safe at first base, a sacrifice bunt or hit and run can follow or the following batter can hit straight-away, thus increasing the possibility for a score in the inning. More offensive maneuvers are applicable with one out than with two outs.

In amateur baseball the bunt for the base hit with two outs by a fast runner or good base stealer is considered a good maneuver when playing against a weak throwing catcher.

In non-hitting situations (taking the pitch) make the pitcher work for the strike. Fake a bunt, move around in the box, or engage in some maneuver that will prove distracting to the op-

AUTHOR of baseball's most recent text, "Winning High School Baseball," Jim Smilgoff has written many articles, supervised technical films, and conducted training and try-out camps. He played baseball under Art Mansfield at Wisconsin and is one of the most respected baseball mentors in Chicago high school baseball circles.

posing hurler's concentration on the strike zone. It is best to hide take intentions as long as possible. A batter should never indicate that he is not going to hit.

Try to fake a bunt and hit occasionally in certain sacrifice bunt situations. There are times when the sacrifice bunt strategy is questionable. At other times the chance of sacrificing successfully is highly doubtful due to a pressing defense. Under these circumstances, the fake bunt and hit can have a demoralizing effect on the defensive players and keep them from crowding the batter in bunt situations.

Try to hit to right field with a runner on second base and none out. Should a ground ball be hit to an infielder on that side of the infield, the base-runner should be able to advance to third with one out. If a fly ball is hit to the right fielder in this situation, the base-runner has a fine chance to tag up and advance to third base after the catch with only one out.

Try to hit to right field with a runner on first base and none out. The advantages in this situation are many and varied. There is a larger base hit area between the first baseman who is holding the base-runner close to that base and the second baseman.

Should a base hit be made to right field, the runner on first base would be able to advance to third fairly often. If the ball is hit to the first baseman, that infielder would find the double play of first to second and back to first base a rather difficult one to perform successfully. Should a ground ball be hit appreciably to the left of the second baseman, he would find this type of double play via the shortstop a fairly difficult one to complete.

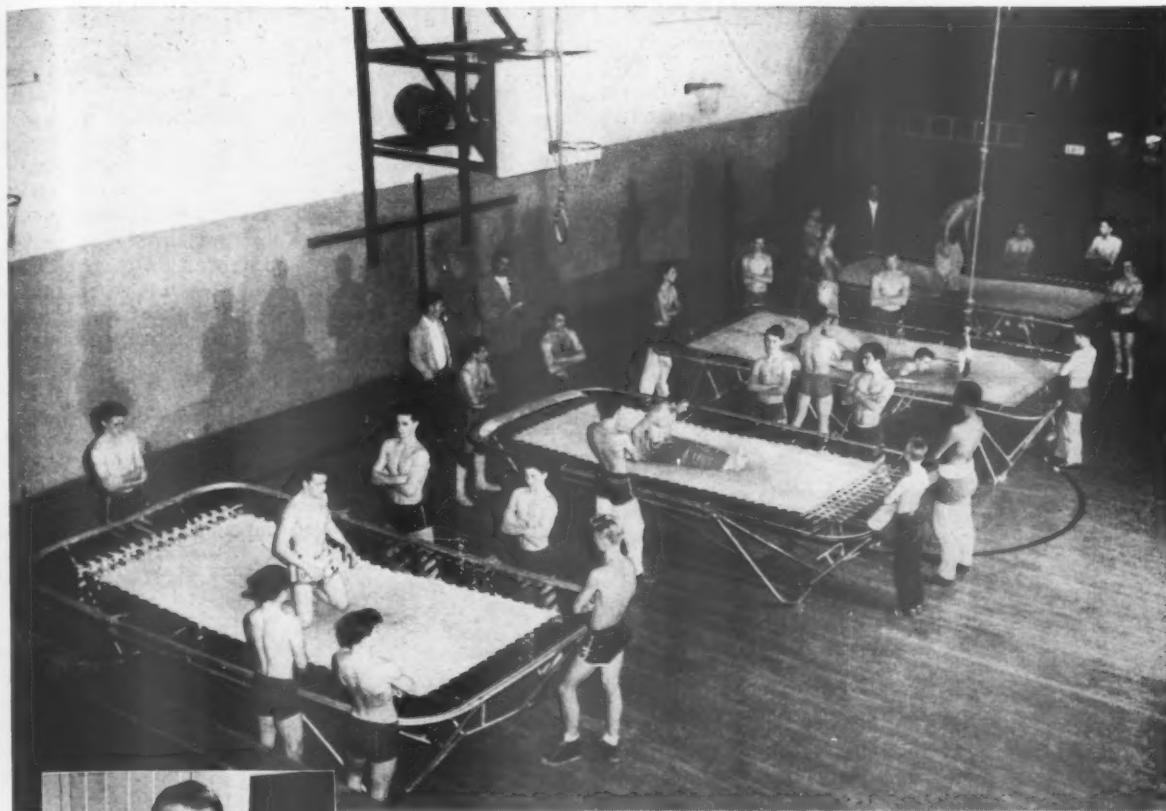
Try to hit to right field with runners on first base and second base and none out. It is difficult for the defense to make the double play on a ground ball hit to the right side of the infield. Should a single be hit to right field in this situation, both base-runners would be more likely to advance two bases than if the ball were hit to one of the other outfielders. If a fly ball is hit to the right fielder, the runner on second base could tag up and advance to third base after the catch.

Hit the first good pitch against a good control pitcher. Waiting against this type of pitcher only gets the batter behind the hurler in the ball and strike count. Then the pitcher can work on the batter. Furthermore, the first pitch from this type of pitcher may be the best strike the batter will see all day. This type of pitcher bases much of his successful pitching pattern on getting the first pitch over the plate for a strike. By hitting the first pitch successfully, it is possible to interfere with this type of pitcher's thinking and pitching pattern.

Hit the first good pitch when the pitcher is throwing the same type of pitch (usually a fast ball) consistently. Some pitchers expect all batters to take the first pitch so they throw a fat fast ball for a strike on that pitch. When this pitching pattern becomes evident, the batter should take advantage of it.

The batter should try to meet the ball when the pitcher has two strikes on him. Crowd the plate just a little bit and stand at the plate with more determination. Shortening the grip on the bat might help to get it around faster, thus attaining better timing. The batter should guard his strike zone more carefully, and try to meet the ball with a smooth, even swing. Hitting the ball somewhere is the important item in this situation. Hard

(Continued on page 53)



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THE purpose of this article is to alert present and future coaches to a hazard which has quite needlessly driven good men out of coaching and has made coaching unpleasant and quite possibly dangerous to a great many others. This is the hazard of prolonged emotional stress—the type of stress which may aggravate numerous physical and mental disturbances and may lead eventually to any of a variety of temporary or chronic psy-

attending to discipline, dealing with the public and alumni groups, and seeing that the contract is renewed. There is also the matter of coaching and the usual teaching job must be done before coaching begins.

Briefly, the coach's life is full of activities which, in combination and in terms of the exacting personal relations involved, are likely to keep his nervous system and endocrine glands jumping overtime.

Emotional Upset and Psychosomatic Problems in Coaching

BY WARREN R. JOHNSON

Department of Physical Education, University of Maryland

chomatic symptoms such as ulcers, indigestion, skin disorders, headaches, and circulatory disturbances. Coaching need not be dangerous, but it may be unless the hazards are understood and precautions against them are taken.

High school and college coaching seems to be one of the most attractive challenges for men in the field of education. Because of the opportunity to work on intimate terms with comparatively small groups of talented boys, a great many teachers welcome an opportunity to add coaching to their other duties, even though extra compensation may be insignificant or not provided at all.

Research in physical education has revealed to us what athletic sports participation does for young men; but what does coaching do to coaches? This question has not been studied extensively, in spite of the fact that the welfare of a large number of individuals is concerned.

Coaching is more or less strenuous from a purely physical point of view. In addition, most coaching responsibilities involve pressure and in many cases tension. For example, what about the matters of budget, money raising, getting along with administrators, game scheduling, public relations, securing and caring for equipment, planning and supervising trips,

Of course, some men take to the high-speed movement, routine, and adjustments of the coach, just as some fighter pilots seem to thrive on combat flying. However, at the other extreme, physicians have held coaching responsible for severe illness and even death at comparatively early ages. H. C. Carlson, physician and basketball coach at the University of Pittsburgh, wrote us that he considers coaching a very real threat to health and reported that he has compiled a list of well-known men who are presumed to have died because of coaching or who have left this work because of illness or other evidences of severe emotional stress. Clearly, those individuals whose success as a coach is measured entirely in terms of the scoreboard and whose positions and security depend upon this kind of criterion are in a particularly hazardous position health-wise. The educational growth of the athlete is not likely to be of prime importance to the individual who must coach under these conditions.

We have studied the emotional reactions of coaches in a limited way. One technique used was that of studying emotional arousal by way of some physiological indicators such as pulse rate, blood pressure, and galvanic skin response before, during, and after local competition and regional tournaments. We found that some of the

coaches became as upset, as indicated by pulse rate, as does the average athlete whom we had studied previously. Pulse rates of 130 beats per minute were not uncommon for men whose normal was below 80. Blood pressure of the coaches was also definitely up, but not as much as that of athletes such as wrestlers and boxers.

The emotional state of athletes, while often intense before competition, tends to decline when the contest begins and is usually normal a relatively short time after the contest. In other words, the tension of the mind and body of the athlete may be said to find relief in physical action. This seems to be a point of great importance because the human organism is well prepared to handle intense emotional excitation for a short period of time and, indeed, may well be *supercharged* by it. However, prolonged emotional stress that is maintained for considerable periods, even though it is less intense, is quite another matter and is more likely to be damaging. It is this prolonged though low intensity stress which is held responsible for the majority of psychosomatic ailments that plague almost an incredible number of our population.

The coach must contend with emotional stress of the latter type. Apart from the pressure involved in the routine business of coaching, we have found that the coach's pre-contest emotional excitation frequently begins early, continues throughout the contest, and lingers afterwards. We have known coaches whose pulse rates did not drop below 100 for hours after competition. One wrestling coach expressed part of this problem aptly when he said: "The wrestlers are lucky. They only have to wrestle one man, but I have to wrestle the whole team." Consequently, coaches describe themselves as being *worn out, washed out or beat* when a contest is over.

Our second means of studying the emotional upset of coaches was through the questionnaire technique. In one study a group of outstanding American coaches gave us some information on this subject. The following were named by them as common coaching experiences which are manifestations of emotional upset: 1) unable to sleep well the night before contests; 2) have trouble sleeping the night after contests; 3) feel irritable or upset as competition approaches; 4) feel quite fatigued when it is all over; 5) lose appetite on the day of matches; 6) feel deeply upset over losses; and 7) have the feeling that coaching takes a good deal out of a person. Of course,

not all of the coaches specified all of these reactions.¹

At a coaches' clinic held in the spring of 1956, Mr. Julian L. Dyke, a Maryland high school coach, distributed a questionnaire to fifty-one coaches in attendance. The following questions were asked and responses are indicated under yes and no.

	Yes	No
1. Are you able to sleep before a game?	38	13
2. Do you have trouble sleeping the night after contests?	19	32
3. Do you feel fatigued after it is all over?	47	4
4. Do you feel irritable and upset as the game approaches?	20	31
5. Do you lose your appetite on the day of a game?	5	46
6. Do you feel deeply upset over losses?	51	0
7. Do you have the feeling that coaching takes a great deal out of you?	51	0
8. Do you remain seated on		

¹Umbach, A. W., and Johnson, W. R., *Successful Wrestling*, St. Louis: C. V. Mosby Co., 1953, Chap. 5.

WARREN JOHNSON served on the physical education staffs at Denver, Boston University, and Arkansas before joining the faculty at Maryland. At Boston he coached wrestling and is co-author of the popular text, "Successful Wrestling," published by C. V. Mosby.

the bench during games?	7	44
9. Are you considering leaving coaching?	13	38
10. If you were in college now, would you still plan to enter coaching?	34	17
11. Do you experience any physical or nervous reaction as the game nears, as it is played or after it is over? Some responses to this question were: "I break into a sweat; sometimes I'm cold when it's really warm." "Sometimes during games I itch." "I just might be pessimistic but I imagine everything bad can happen to my team. I just worry the whole game." "After the game is over, I relax by taking it easy. By the time the game is		

over I'm beat." "As game time approaches, I grow sleepy and depressed. I feel tired in every muscle and would like to and possibly could sleep. On occasion players and coaches have asked me if I felt all right because I looked pale and according to some had a faraway look in my eyes."

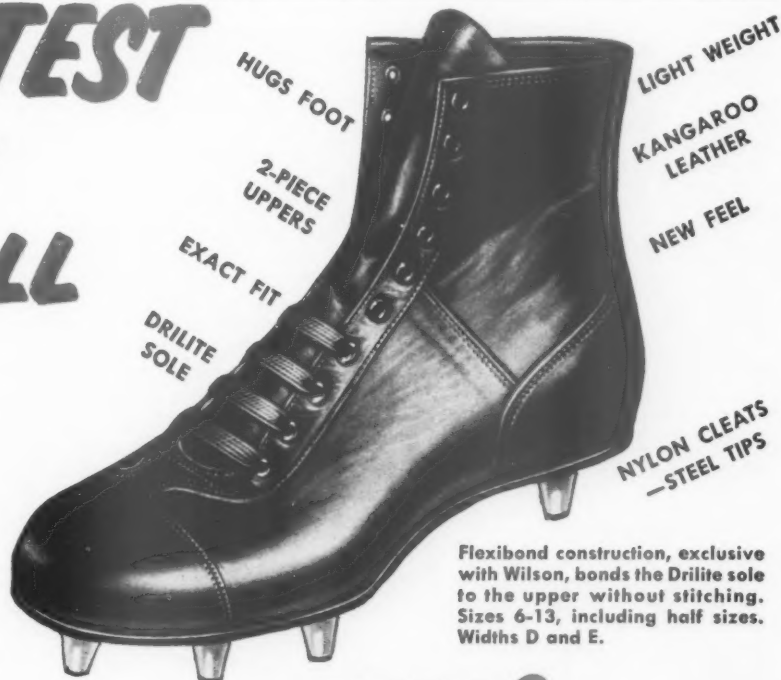
When considering the intensity and length of emotional stress, it is also necessary to consider that after a few years a coach's youthful resiliency tends to fade gradually. As a rule, the young coach is very nearly on a par with his athletes in regard to vitality and fitness. But as time passes he tends to become less well conditioned, less fit, and less able to carry the load lightly. He tends to accumulate flesh and to deprive himself of rest and sleep because of the demands of his work. In a word, he tends to become less able to stand up under the demands of coaching and the pressures of emotional stress. Then there is every likelihood that coaching can become a serious hazard to his health.

As a matter of fact, if heart or circulatory disturbances, unusual nervousness or other conditions which are known to be aggravated by emotional excitement are acquired, it may well be

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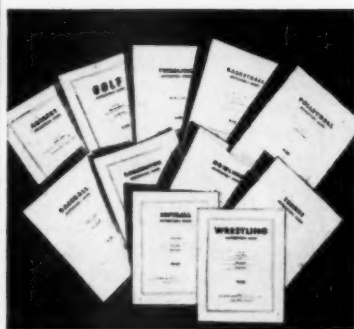
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wise to give up coaching. An alternative choice for those who love to work with youth and who feel that they have an important service to render is to switch from varsity level coaching to intramurals, recreation programs, and athletic club or neighborhood youth programs where qualified leadership is needed desperately and where emotional stress is much easier to avoid.

Coaches and would-be coaches might well give serious consideration to the following suggestions:

1. *Physical Examination.* Before going into the kind of work, either on a part-time or a full-time basis, the prospective coach should have a thorough physical examination with special attention given to the circulatory system. This check-up is especially important if the individual has lapsed into middle-aged inactivity and careless eating and overeating. Conceivably, the examination may show that coaching is really not a safe occupation for him.

2. *Medical Check-ups.* The coach should continue to have periodic medical check-ups, particularly before and after his sport season. In other words, he should take as good care of himself as he does of his athletes.

3. *Care of Himself.* Such things as nervousness and lingering bodily pain should be taken seriously, especially if they persist and increase in intensity as time passes. If they do, the coach should consult a doctor about them.

4. *Modification of Habits.* In the course of his coaching, if he discovers that he has acquired a chronic or incipient illness, or if he finds that this work is taking too much out of him, in addition to having a medical examination, the coach should study his method of coaching for habits which may be putting undue strain on him. Modification of these habits may make leaving the coaching field unnecessary. For example, many of the details pertaining to equipment, keeping records, making preparations for home contests or trips, etc., can be handled well by athletes and other student help. Such chores amount to a tremendous mass of detail for one man to carry and, incidentally, they often interfere with the more important business of coaching.

A coach may also find that he is permitting himself to be carried away by his emotions before and during contests. A more realistic philosophy of athletic competition and a little self-control may be all that are needed to make coaching pleasant and safe. By exercising self-control he will prob-

ably set a better example of mature behavior for his team and other students.

It is important to realize that undesirable emotional behavior can be modified. We are slaves to our emotions only when we permit ourselves to be. Over the years we have had quite a number of graduate students who took these suggestions seriously and found that coaching does not have to be the nerve-jarring, emotional trauma they had permitted it to become. For example, one coach used to have a startling assortment of psychosomatic symptoms, including actual hives, indigestion, and sleeplessness, occur before and after his team's contests—simply because as an athlete he had associated competition with intense emotional arousal and had continued this association into his coaching. His coaching days were definitely numbered and he had received medical warnings to this effect. But when he realized that things do not have to work this way, he changed his behavior. In a short time he was enjoying coaching more than ever before, was free of symptoms, and was confident that the change had made him a better coach and surely a healthier influence on his athletes and students.

5. *Preparation for the Sports Season.* The coach should view his sports season as a period of considerable physical and emotional stress and prepare for it accordingly just as his athletes do. It is essential that he adopt a living regime which will provide for adequate rest and sleep. A diet that is well balanced but light should be selected. Heavy eating, which is often more common when men are under emotional stress, and overweight tend to put additional strain on the heart and blood vessels, thus cutting efficiency and increasing possible danger. It is important for the coach to get himself into physical shape. He should start slowly and follow a graded program of exercises until he reaches a satisfactory level of fitness and then hold that level. Although most coaches will probably not attempt to stay with the exercise regime of their athletes, they can usually use part of the conditioning time for their own lighter routine and should do so throughout the season.

If exercise is done properly and is accompanied by a good moderate diet and adequate rest, the organism is brought to the point where it can do a bigger job with greater ease, a greater sense of well-being, and a decreased likelihood of going to pieces under the physical and emotional stresses of coaching.

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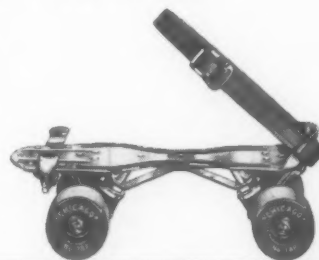
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WE have found that it is much easier for our players to remember batting weaknesses if the various pitches are given numbers. High school and college pitchers and catchers always find it difficult to memorize batting weaknesses in terms of three word descriptions such as low-inside-fast, high-outside-curve, etc.

This situation has been remedied at the Canal Zone Junior College by giving each type of pitch and the location of each pitch a number. The various types of pitches and the numbers given them are: Change-of-pace—1; Curve ball—2; Fast ball—3; Special—4 (pitcher's special delivery such as a cross-fire, sinker, slider, etc.).

Numbers are assigned to the areas of the strike zone as shown in the accompanying diagram.

A close study of the diagram will

the number given that particular type of pitch (1-change-up, 2-curve, 3-fast, etc.). Next, the catcher flashes the number of fingers that represent the area of the strike zone in which he wishes the pitcher to throw (0-low inside, etc.). To minimize the memory work of the pitcher and catcher, the catcher is responsible for memorizing the weaknesses of the opposing batters in terms of their geographic location; the pitcher is assigned to commit to memory the weaknesses of the opposing batters in regard to the type of delivery. The pitcher may *shake-off* the call of the catcher until the type of pitch he wishes to throw is called. However, in regard to the location call, the catcher has the final say and cannot be *shaken-off*. When the catcher wants a *highway* pitch, he signals for the type of delivery and

then simply places his glove, as a target, for the pitcher to throw to.

In addition to the signal from the catcher to the pitcher, it has proved beneficial to have the shortstop and the second baseman relay the location signal to the outfielders. The second baseman and the shortstop, after having picked up the sign from the catcher, transmit it to the fielders by placing their right hands against their backs. A closed fist informs the outfielders that an even pitch is coming up; a spread hand indicates that the next pitch will be an outside pitch since the number of fingers shown was five, an odd number. Outfielders who know whether the pitch will be inside or outside have a better chance of getting into position to field a ball hit into their territory.

The use of the number system has

Pitching According to Numbers

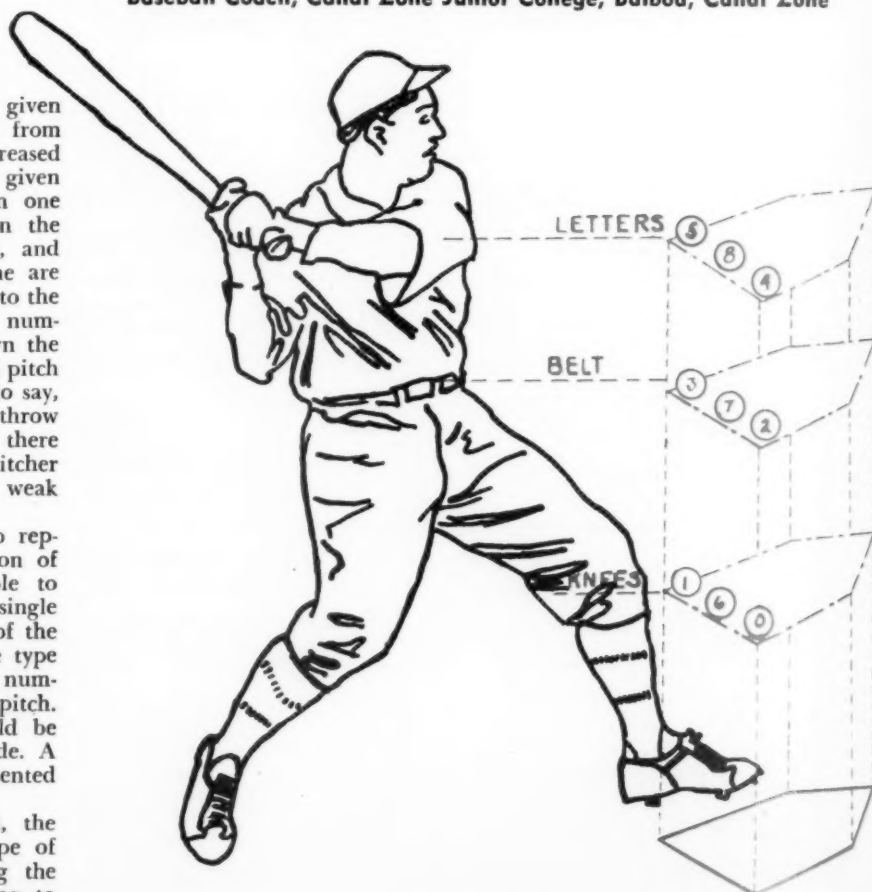
BY STEWART J. BROWN

Baseball Coach, Canal Zone Junior College, Balboa, Canal Zone

show that inside pitches were given even numbers and graduated from zero to four as the pitch increased in height; outside pitches were given odd numbers ranging from one through five and graduated in the same manner. The six, seven, and eight regions of the strike zone are referred to as the *highway*, due to the fact that they are the highest numbered and because a pitch down the *highway* is considered a grooved pitch in baseball parlance. Needless to say, pitchers are cautioned never to throw a *highway* pitch except when there are no runners on base and the pitcher is in the hole while facing a weak batter.

Having provided numbers to represent the type and the location of all pitches, it becomes possible to unite the two factors into a single two digit number. The prefix of the two digit number indicates the type of pitch; the second part of the number denotes the location of the pitch. For example, a 33 pitch would be a fast ball, belt-high and inside. A low curve ball would be represented by the figure 20.

When signaling for a pitch, the catcher indicates first what type of pitch is desired by displaying the number of fingers corresponding to



greatly simplified our charting work. To ascertain the weaknesses of opposing batters, some method of charting every pitch thrown in a game and the action taken on it by the batter is necessary. "The Balboa Pitching Charts"

STEWART BROWN graduated from Pittsburgh in 1949, and then coached at St. Justin's and Taylor Allerdice High Schools in the city of Pittsburgh before going to the Canal Zone. He coached at Balboa High School for two years where his teams were Canal Zone champions. In 1955 he wrote an article entitled, "The Balboa Pitching Charts" and last year followed it with an article, "Pitcher Selector — Batter Detector Charts."

(*Athletic Journal*, January, 1955) show a very efficient charting system. However, it has been replaced at the Canal Zone Junior College because charting according to numbers has proved far simpler and just as efficient in every way. The simplicity and efficiency of this method are demonstrated in the following example.

Six pitches which were thrown to a batter during one time at bat are as follows: 1. Low inside curve ball, swung on and missed. 2. Low outside fast ball, taken for a strike. 3. Belt-high outside fast ball, taken for a strike. 4. Belt-high outside fast ball, taken for a ball. 5. Low inside curve, strike, fouled off. 6. Belt-high fast ball outside, taken for a third strike. This pitching data is also shown in Table 1.

Table 1

20m	20f
31	33
33 K	---
33b	

The action taken on a pitch is designated by letters following the pitch number. An *m* following the pitch number indicates that the pitch was swung on and missed; a *bm* shows that the batter went after a bad pitch and missed. A *t* means that the batter tipped the pitch, and an *f* that he fouled it. All other symbols used in the diagram are those used by the official scorer.

The numbering of pitches has proved a great aid in practice sessions
(Continued on page 57)

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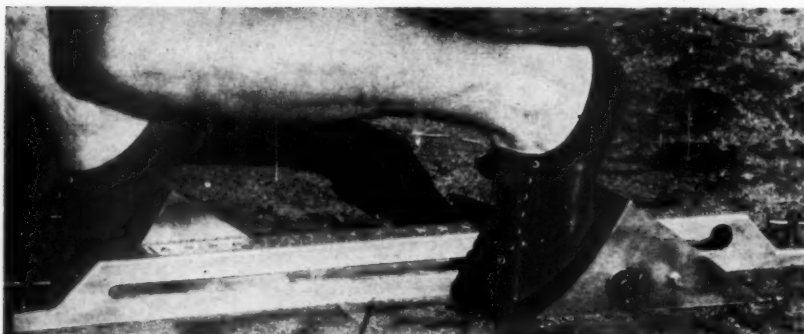
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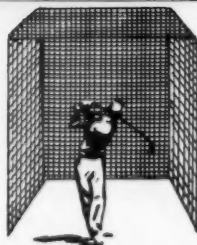
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Bunting Teaches

(Continued from page 26)

All that he has to do is let his upper hand slide to the spot just short of the trademark, and relax that hand so that his fingers and thumb are gripping the bat. There is no bat contact with the palm of this hand. Thus the ball is cushioned as the bunt is executed.

5. *Bunting the Ball.* The batter's hand which is closest to the end of the bat grips the bat in order to control it firmly. As the hand near the trademark grips the bat loosely, the batter watches the ball approach, never taking his eyes off the ball. He always holds the bat parallel to the ground. Now his entire body is planted so that he moves up and down easily by flexing his already slightly bent knees. His arms should not lunge out at the ball. The ball must be *caught* by the bat as far out in front of the plate as is possible. The angle at which the bat is held will determine the direction that the bunted ball will take. The batter's entire body is poised and in balance from his feet which are comfortably spread, to his arms which are relaxed.

All of these steps, when taken in the proper sequence, will lead to developing the batter's balance and confidence at the plate. The hitting fundamentals follow naturally, rather than separately. The bunting instructions complement the hitting instructions because the technique involved is a specific frame of reference in explaining the various necessary movements that lead up to hitting the ball with a full swinging motion.

We have found that by using this type of instruction, the players develop so much confidence that they are able to get out in front of the plate with the half pivot, and punch the ball through, or into the charging and overconfident infielders which are encountered from time to time in high school baseball. The position of the punch hit makes the batter dangerous because he can *dunk* a pitch if he feels so inclined and thus can keep the opposition off balance consistently. Our players do not *ballerina* into a bunting position as so many high school boys do when they literally leap into the air, and spin top-like into position with the bat choked long before the pitcher is ready to release the ball. Also, the batter is not caught stiff-legged in a half hitting spread, vainly trying to get his bat on any ball and every ball that is thrown at him during the course of a ball game.

The Bunt

(Continued from page 31)

For the double squeeze two 10-minute sessions a week are devoted exclusively to the execution of this play.

In addition to the regular bunting drills, two or three of the fastest players are taken aside and taught the drag bunt. We do not consider this part of our bunting game. The drag bunt is practiced for the purpose of having someone reach first base and as a maneuver to keep the defense alert.

We do teach the *bunt and swing*, and use it during the early innings of every ball game to let the defense know we have the play. It is taught to every player. The bunt and swing is executed from the bunt position, but because it is not a bunt we will skip over it except to tell how it relates to the bunting game. We have our bunter square away early. After one batter has squared away early and then drilled the ball on the *bunt and swing*, we find the defense is often reluctant to come charging in on the plate. Surprisingly enough, this maneuver is often easier for the poor hitters to execute than it is for the good

ones. In our opinion, it is due to the players being open to the pitcher early.

We believe in the bunt as a potent offensive weapon and try to impress upon our players that the defense is as smart, if not smarter than we are. As a result, they know the bunting situations and when to expect them. Although our players may be successful, we rarely surprise the opposition. Hence a player must be able to bunt perfectly and give himself up for the possibility of the *score*.

Before any player steps on the field to bunt he has received two work sheets. One shows the mechanics of bunting, the other tells the situations in which we use the bunt, and which bunt is used. Both of these sheets must be kept in the player's notebook.

The Crawl Stroke

(Continued from page 38)

tion lower than his elbow. The action of getting his hand above the elbow will generally result in his elbow striking the water first. When this occurs, it means that his elbow is leading on

the pull, with the result that the power output of the pull is diminished until such time as his hand can get into a position beneath the water that is lower than his elbow. It might be said that on the recovery the swimmer is attempting to keep his arm in a position that will enable him to place his hand in the water so that he can immediately commence with a pulling motion that will keep all negative actions at a minimum. Tension also should be taken off the muscles of his arm so that they are completely relaxed and his hand should be held loosely. It is the shoulder joint which brings the arm over while the muscles in the arm relax.

When practicing this arm action, it is best to start on land as we pointed out earlier. From land, the swimmer should go to shallow water so that he can stand and get the feeling of the pull against the water while he is executing the arm movement. In attempting the arm action in the prone position, it is best to have the swimmer practice with his head down in the water until it becomes necessary for him to take a breath. In this way he can concentrate fully on the placement, pulling action, and recovery of his arm. His leg action is not used in this drill.

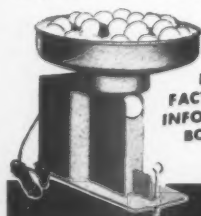
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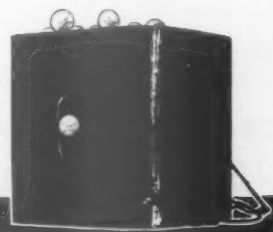


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Soccer

(Continued from page 24)

tional weight to the attack (Diagram 3). They must always be alert to see that nobody gets behind them, and they drop back quickly at the first threat of trouble.

The goalie is the last line of defense to keep the ball out of the goal. He plays in the goal but should go out to clear any loose ball which he can reasonably reach. When he gets the ball, he tries to clear it by a throw or a kick to a halfback or forward. His position play is similar to that of a goalie in ice hockey.

The coordination of all these positions may be illustrated by describing a basic offensive play pattern in soccer. The goalie or fullbacks stop an opponent's threat and clear the ball to a halfback who relays it up to a wing near midfield. The wing dribbles the ball quickly along the sideline. When he approaches the goal line or when he draws a defensive back to him, he may pass the ball to his inside forward or center it with a long kick across the front of the goal for the center forward or opposite inside forward to shoot in. As another alternative, the wing may pass back to the trailing wing half, who then passes to a forward or takes a long shot at the goal. The successful execution of this fundamental offensive pattern with its numerous variations cannot be achieved if individual players roam aimlessly around the field.

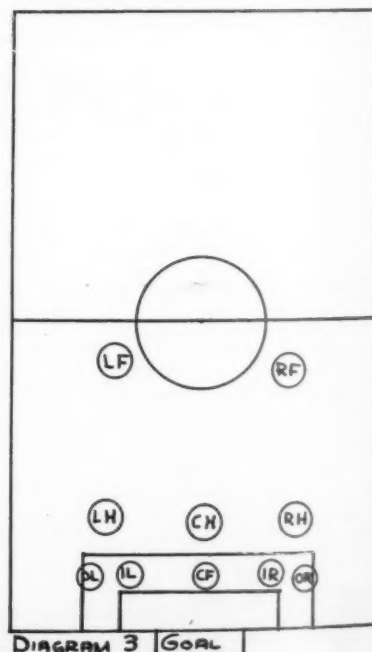
Suggestions for Teaching

We believe that these basic facts of position play should be taught to players before the first scrimmage. Players should have this information right at the start of their play even if only five or ten minutes are taken to present it. The main points can be reviewed later, and more detailed information covered at a future time. A portable blackboard placed flat on the ground will be a useful aid in diagramming positions. The position of various players can be illustrated with chalk markings or by use of representative objects. Bottle caps serve very nicely. Another way to help players visualize their positions on the field is to take one team out on the field at a time and station the players in the starting positions indicated in Diagram 1. Then walk them into the positions shown in Diagram 3. Have the players look around and notice not only their own position on the field, but also their relation to the other positions.

During actual play a great deal can be accomplished by comments to individual players without stopping the game. It will be necessary to watch the wings continually and keep them out toward the sidelines. The halfbacks will have to be told repeatedly to move up and support the forwards on offense. An overly active center forward will have to be cautioned about trying to cover the whole field. Some of the forwards will want to go way back to their own goal to help out on offense. Fullbacks will lay back too close to the goal on defense and will not move up to midfield on offense.

When several players are observed out of position or bunched up on the ball, another very useful technique is to blow the whistle and have everyone stand still. Then tell them to look around and see where they should be. Have them go to their proper positions before resuming play. A good general cue for poor position play is when more than three men are in close proximity to the ball, except when the ball is directly in front of the goal. If players are where they should be, then seldom will there be more than three men (one offensive and two defensive) grouped together.

These basic facts have to be stressed repeatedly both to individuals and to the team. The junior high school urge to chase the ball has to be suppressed by constant vigilance on the part of the instructor. Players who are observing good position should be specifically and verbally commended.



It is also recommended that players change positions occasionally so that backs get to play on the line and vice versa. This will give each player a better concept of the total team play and the relationship between his position and the other ten men on the team. He will have a better knowledge of where his teammates are which will be useful in both offensive and defensive situations.

Conclusion

The foregoing discussion of position play in soccer has necessarily been brief. The experienced soccer enthusiast will notice many omissions. However, the intent was to propound only fundamental facts. If the individual player can grasp these principles and develop a general concept of team position as outlined here, then he will more readily understand special situations such as free kicks, corner kicks, out-of-bounds or touch kicks, goal kicks, etc. He will have less difficulty in learning the variations represented by the W-formation, the M-formation, the three-back game, and others which are discussed in the soccer coaching books. The selected facts presented will initiate a mature awareness and appreciation of the true nature of this game which appeals to people of all races and nations. The American student will better understand why the International Federation governing soccer has more member countries than the United Nations.

Batting Strategy

(Continued from page 42)

swings that result in strike-outs produce nothing but dissatisfaction and grief. We feel that one of the most distinguishing characteristics of a good hitter is his ability to get many of his hits when there are two strikes on him.

Make the most of your own offensive assets. A batter should do those things most often that he can do best. If he is a good bunter, he should bunt more often than others who are not as good. If he is inclined toward the long ball, he should try for it more often than others who are not so inclined physically. If he is a good right field hitter, he should try to hit often toward that field in situations which demand this maneuver. Some players are not listed high in the batting averages, but they are good team batters. They contribute a great deal toward the offensive success of their team. They are smart hitters; they are crafty batters. They know and take advantage of the strategic rules of batting.



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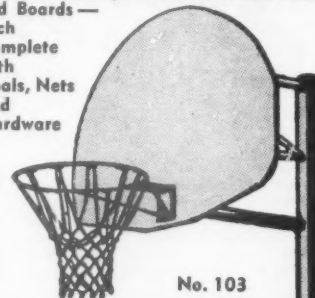
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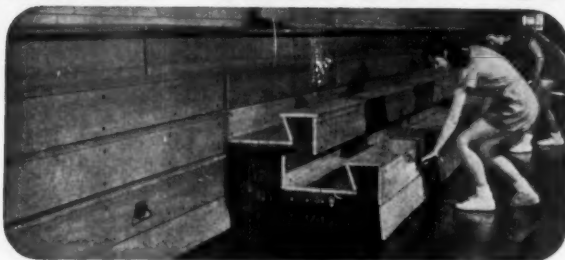
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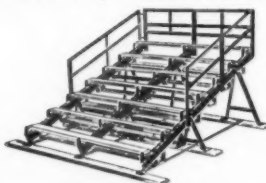
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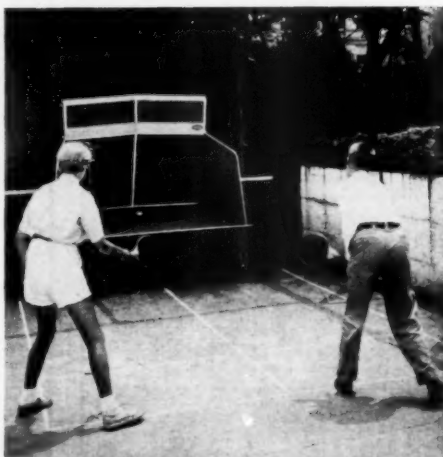
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Greg Bell

(Continued from page 7)

top speed, he must get good height to allow himself time to reach championship distance, and he must end his jump with a fully extended leg position so that he is credited with his greatest possible clearance.

Now, let us consider what happens in this champion's jump. As he hits the board with his left foot, his effort to attain height is started with a strenuous upward thrust of his arms. In the air he uses an alternating or hitch kick leg action, very possibly with greater effectiveness than is the case with many jumpers. When his alternating leg action is completed and he comes to the two foot forward position, he does so with a positiveness which gives him a knee and leg extension which may well be copied by other jumpers. In all likelihood Greg could be a great jumper without using his present hitch kick form. However, it is unlikely that his thigh position would be as high or his knees as fully extended, if he were to change to a form in which his legs were immediately brought to the forward position following his take-off. The accompanying sequence pictures show this knee extension very well.

In his landing position, Greg aims to have his knees and body back of his feet at the time of contact with the sand of the pit. When the jump ends with his body in a side turning position, it is generally brought about by a landing pit which is too dry, making it necessary for him to go to a side position to avoid loss of distance by falling back or sitting down in the pit.

Of the three qualities required for championship jumping, it is quite likely that Greg Bell has attained near perfection in two. He comes into the board with absolutely no semblance of having to feel his way, and he completes his jump with a leg extension which is beautiful to see. If he can gain more height, with no sacrifice anywhere else, the goal of over 27 feet will be definitely within his control.

Greg has been aided by several qualities which have not been mentioned. He has a fine anatomical and muscular makeup which seems to keep him in relatively good physical condition most of the time. He possesses a most favorable psychological constitution in that he never seems low mentally and he can always rise to the occasion at hand. Finally, he possesses in rich abundance the essential quality of liking hard work.

Now, what about the daily practice

routine of this great athlete? It can be summed up quickly as follows: He jumps and runs a great deal. However, if we left it at that point the statement would be misleading to say the least. He jumps a great deal but almost entirely with a short run, and mainly for full exercise of all the muscles involved, as well as for perfection of the various moves required in the type of jumping form he uses. Greg's running is done with other sprinters, and they do considerable striding over distances of 110 yards and up to the 220's and even the 330's.

Like most champions Greg is a perfectionist, and is always willing and anxious to work intelligently for greater improvement. Furthermore, like most great athletes, he receives great enjoyment from his competition and his preparation for it. Also, like almost any other boy he likes periods of activity which have the purpose of combined play and exercise of important muscles.

One of the stunts which has appealed greatly to Greg, as well as to some of our other jumpers, is done with the high jump standards. The athlete approaches the crossbar from straight in front, uses four or five strides with normal speed for that distance, and clears the crossbar in a broad jumper's starting position while remaining in a face forward position. Greg and one of our other broad jumpers cleared very close to six feet in this manner.

Greg is a fine team member with a high sense of responsibility to the group. This is evidenced by the fact that as a junior he has been selected by his teammates as one of Indiana University's co-captains this year. In addition to continuing his great work as a broad jumper, Greg will undoubtedly do a little more sprinting this season than he has in the past.

Training Pole Vaulters

(Continued from page 20)

relax the vaulter.

As our vaulters move down the runway, they concentrate on the following items: 1) check marks; 2) pole plant with eyes on the box; 3) the remainder of the jump is spontaneous with an attempt to explode with rhythm; 4) eyes on the pit when landing.

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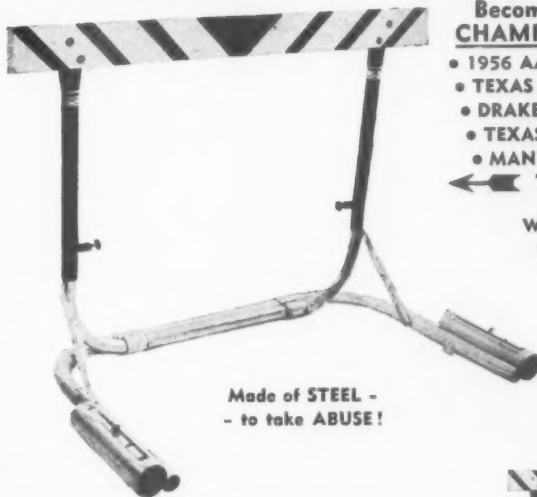
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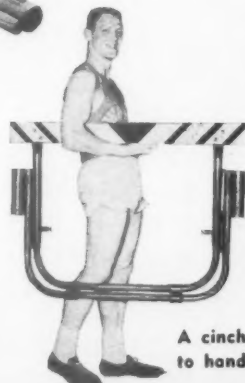
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Practice During the Week

We believe short jumps are practical. By executing short jumps the vaulter is able to take a greater number of jumps and still jump effectively. Our vaulters are instructed to use a low hold, a short run (55-60 feet), and place the standards back as much as three feet. Thus they receive considerable practice in one day's jumping. The vaulter is able to work on one phase of his jump without becoming fatigued or worrying about making the height. There are many gimmicks, but there is no substitute for actual jumping. The bar should be kept high enough so that the vaulter must perform in order to go over.

Very seldom, if ever, do we have our vaulters jump for height in practice. Late in the season they take one jump at each height and we keep raising the bar regardless of successful jumps and continue to raise it until it is four to six inches over the vaulter's best height so he will not be frightened at a meet.

It is important to work on form and forget height during early practice sessions. At the start of the season we take only one day's rest before a meet and as the season progresses and problems decrease more rest is scheduled. A vaulter's best jump should come at the end of his senior year. Therefore, if we have good weather a day or two before a regular meet we continue working even if it might cost our vaulter a few inches in the meet. Included in practice must be other conditioning gimmicks such as sprinting, hurdling, and work on other events for diversity.

Day of the Meet

The day of a big meet is almost a rest. The vaulter must be on hand early to be sure the pit is prepared properly, check the wind, tape his pole, and take his warm-up including practice jumps. The weather, type of competition, and condition of the vaulter will determine at what height he will start vaulting. If he is a good vaulter, he will have some time between the warm-up and his first jump. He should stay out of the hot sun and keep covered. By mid-season his general routine should be set.

Our vaulters never take a jump, practice or otherwise while wearing sweat clothes, and we always try to

have the first attempt low enough to prevent fatigue. Our most capable vaulter had his best jump on the seventh or eighth try. The vaulters should have their ankles taped or wrapped for practice and for the meet.

A schedule should be made out each week to include workouts, number of push-ups, handstands, and hours of sleep. A record of progress should be kept as the season advances. We want the last meet to be the best.

Exercises in Track

(Continued from page 16)

workouts until a week or two before the first meet), and in-season (during the period of competitive meets). It should be borne in mind by the coach and athlete that what affects one muscle affects all muscles, so that while major emphasis may be placed on building one muscle group, a complete workout should be planned. All large muscle groups should receive the benefits of the exercises.

The chart accompanying this article shows briefly the type of training which should be conducted during each part of the year. The number of days per week is given only to suggest a range and degree of emphasis. Some boys will desire more training, others less; some will recover sooner than others. It is up to the coach and the athlete to discover the most suitable program.

A note on the use of the chart: speed training, endurance training, and power training are conducted as we have explained. Speed training consists of three groups each of them one-half to three-quarters of maximum repetitions of the exercises done very rapidly. Endurance training involves slow repetitions of each exercise done once each day to maximum. Power training consists of a standard number of repetitions done with progressively increased weights.

Speed endurance training involves the maximum number of fast repetitions. Speed power training consists of three groups of from one-half to three-quarters maximum repetitions with weights.

The exercises themselves may be found anywhere in the vast repertoire of calisthenics available to any coach. Weight lifting is excellent for power training; chin-ups, push-ups, sit-ups, leg lifts, slow deep knee bends, toe risers, and handstand push-ups are also excellent exercises.

Finally, one word concerning a few other uses of exercises. As competitive events or games on a rainy day or

day off, they provide a spirited means for the team to get a workout. As a means of promoting team spirit, there is no better method than group calisthenics with the accompanying noise and cheers. Charts and posters which advertise *Chin-Up Champ* and *Sit-Up King* will have the athletes vying with each other all during the season.

There are many exercises, there are many ways to use them; the right use will improve performances and condition. A well-constructed program, rigorously followed by the athlete is an excellent tool in the hands of a coach.

From Here and There

(Continued from page 4)

so much he was raising his own backfield. Mrs. Broyles promptly replied that she was happy Frank was a backfield instead of a line coach. . . In looking over some statistics, we noticed that Mahaska, Kansas, High School football team, coached by Jim Jenuk, only had 6 points scored against it during the past seven-game season. The school plays the six-man game. We wonder if any six-man team ever concluded a season without being scored on?

Pitching

(Continued from page 49)

as well as in games. After studying the charts, each player becomes aware of his basic weaknesses and may practice at the point of error simply by requesting, according to number, that the pitcher throw him a particular pitch. The pitchers, by examining their work, as recorded on the charts, can readily ascertain which of their deliveries is most effective and also the ones on which work is needed. During both games and practice sessions pitches must always be referred to by the number.

Our players enjoy using the number system and many of them become known to their teammates by the number of the pitch that gives them the most trouble. One player has been working hard to lose the name of "21" Smithy. Smith, of course, has a hard time with the low outside curve ball. The most humiliating term the boys have devised for a teammate is that of *highwayman*, which implies that the individual thus named cannot even hit a pitch which is thrown right down the middle of the plate.



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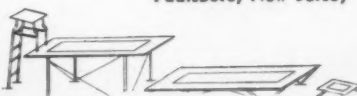
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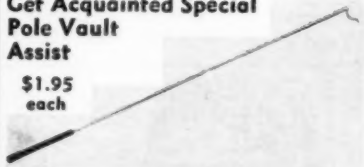


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New Books

Planning Facilities for Health, Physical Education, and Recreation. Published by *The Athletic Institute*, 209 S. State St., Chicago 4, Ill. One Hundred and fifty-four pages. Price \$2.50. Publication date Jan. 1957. Received for review Dec. 20, 1956.

In 1946 representatives of AAHPER, American Recreation Association, College Physical Education Association, and the Society of State Directors of Health, Physical Education and Recreation recognized the need of a guide to be used in planning facilities for athletics, physical education, and recreation.

The Athletic Institute underwrote the cost of a conference of leaders in the above fields as well as city planners, architects, landscape architects, engineers, and school construction consultants.

As a result of the conference, a guide was published in 1947. This guide won acceptance immediately. There have been eight subsequent printings and approximately 25,000 copies have been sold.

During the past ten years there have been many new developments in the way of facilities, and it was felt that the guide should be revised to include these developments. The result was a second conference of recognized leaders and it was also financed by The Athletic Institute. The conference was held for a week last spring at Michigan State.

Among the subjects covered in the revised guide are outdoor facilities wherein are to be found typical layouts for combined baseball and football fields, lighting recommendations, handball courts, and types of surfacing materials.

In the section devoted to indoor facilities, among the items discussed are the following: suggested gymnasium sizes and types, arrangements for dressing rooms, typical storage-dressing locker arrangements, and details of locker and bench installation.

There are sections devoted to resident camps, school health facilities, recreation buildings, and school and community swimming pools.

The section on stadiums and field houses discusses the various shapes and pays particular attention to the matter of sight lines and focal points.

A very important section, we feel, is the one devoted to general plant features. In it is to be found a wealth of material on recommended light intensities, heating and ventilating standards, heights of shower heads and mirrors, sanitary and service facilities, acoustical treatment, etc.

We urge every school contemplating new facilities or improvement of existing facilities to procure a copy of this book. All of the procedures and suggestions have been proven successful in actual practice and by following them many of the pitfalls and common errors to be found in athletic facilities can be avoided.

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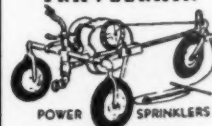
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Bunting

(Continued from page 13)

the batter must get off to a fast start. These factors make this offensive weapon a very difficult maneuver.

A left-handed batter has the advantage over a right-handed batter in bunting for a base hit because he is closer to first base. He can either drag the ball past the pitcher, slowly toward the second baseman or first baseman, he can push the ball toward the shortstop (rarely executed), (Series E) or he can drop the ball down toward the third baseman. The best pitch for the left-handed batter to drag is the inside pitch and the best one to drop toward third is the outside pitch. However, an expert left-handed batter can begin running before meeting the ball and, consequently, can bunt the pitch that is over the center of the plate or over the inside of the plate down toward the third baseman. In all cases, the curve ball or slow ball is the easiest to bunt because these two pitches are usually thrown low. Low pitches are easier to bunt on the ground. The curve ball and slow ball also permit more time to adjust for the running bunt.

In bunting for a base hit, the right-handed batter can place the ball down the third baseline (Illustration F) or he can push it past the pitcher toward the second baseman, first baseman or shortstop (Series D). When dropping the ball toward third base, the best type of pitch for a right-handed batter to bunt is the outside pitch, preferably a curve ball or slow ball. By bunting the outside pitch, the right-handed batter can begin running toward first base as he bunts. The curve ball and slow ball are easier to follow and are usually pitched low. When pushing the ball toward the second baseman or first baseman, the outside fast ball is usually the best to bunt. On the push bunt to the shortstop, which is rarely executed, the inside pitch is usually found to be the easiest one to attempt the play.

In bunting for a base hit, the left-handed batter does not have to slide his hands up on the bat as in the sacrifice bunt, although many players do. Usually a position between the two extremes is used and the batter slides his top hand about one-third the distance up the bat. The right-handed batter almost always modifies his grip as the pitcher throws, either by sliding his right hand half way up the bat or up one-third. This grip enables the batter to better control the bat. In all cases, the batter does not square

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around but, instead, holds his batting position as long as possible and then begins running as he bunts.

On the drag bunt, the left-handed batter has his left hand in advance of his right hand. When bunting toward third, his right hand is in front of his left hand. In both cases, the bat is held behind his forward leg. The right-handed batter holds his left hand a little more forward than his right when executing the push bunt and has his right hand in front of his left hand when executing the bunt toward third (Illustration F). In the push bunt, the right-handed batter grips the bat a little tighter and meets the ball in front of his body. When bunting toward third, the bat is held loosely and his hands are not moved beyond his front leg.

When the left-handed batter bunts for a base hit, he takes a short step with his right foot toward first base as he bunts or he crosses his left foot over his right foot as he bunts. Some left-handed batters who stand near the plate will take a short step away from the plate with the front foot and then stride toward first base with the rear foot as they bunt. The right-handed batter takes a short step toward first base with his left foot or with his right foot as he bunts. However, some right-handed batters who stand near the plate take a short step back with either foot and then take a step toward first base with the rear foot as they bunt.

Practice

If a player can catch a ball, he can become proficient in bunting, providing he cares to work. Bunting is a

Illustration F shows a bunt for a base hit down the third baseline by a right-handed batter. Notice how the bat is dropped to a position behind his front leg, and his right hand is in front of his left hand. Then the ball is dropped down the third baseline as the bunter steps toward first base with his rear foot.



skill that can be developed by practice, practice, and more practice.

When practicing, the player can set a towel or a sweater on the diamond along the first and third baselines. Then he can attempt to bunt the ball so that it will roll dead on the object. After becoming fairly proficient, the batter ought to practice against hard pitching in order to obtain experience in game-like situations.

Shot Put Technique

(Continued from page 9)

shot which is seen in the upper left-hand corner of the picture. His weight is now supported by his left leg which extended the instant before the release, giving added power to the put. Bill's right foot is still pushing against the ground. His right arm is fully extended and his wrist is flexed as a result of the final wrist and finger snap which were added at the completion of the release. This movement has completed the explosive action of the delivery and release as may be seen by the powerful contraction of his leg muscles, right arm, and right shoulder girdle muscles.

As shown in Illustration 8, Nieder is in the reverse or follow-through position which resulted when the forward momentum of his body necessitated a quick step, thus placing his right foot against the inside of the toeboard to keep him in the circle. His body weight is now supported entirely by his right leg, with his left leg partially flexed and up behind in an effort to maintain balance. Bill's trunk is flexed forward, his head is upright, and his eyes are focused in the direction of flight.

Comparisons of O'Brien and Nieder

The two shot putters employ the same basic form. They have certain individual differences in their execution of the modern technique.

The first apparent difference is in the initial stance at the rear of the circle which is shown in Illustration 1. Nieder's right foot points about 160 degrees from the direction of flight; whereas, O'Brien's right foot points a full 180 degrees from the direction of flight.

Nieder's right elbow is about eight inches from his hip. His right forearm is beneath the shot. The shot rests below and a little forward of his ear. His right shoulder is about six inches lower than his left.

On the other hand, O'Brien's right upper arm is parallel to the ground and both shoulders are level. The shot rests on the upper portion of the trapezius, below and slightly to the

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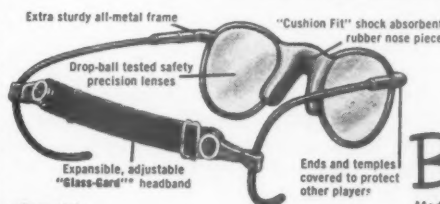
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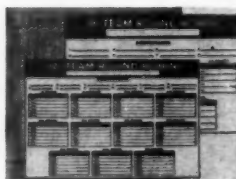
AS a result of the enthusiastic response to the "Coaches' Sports Calendar" introduced last year, a new and improved edition has been prepared for 1957. The new version will provide increased space under each date of the school year to facilitate the recording of future sports events and important meetings. The calendar is printed in two colors and has protective metal strips on the top and bottom, with double eyelets for easy hanging. The 1957 calendar measures 21" x 28" and may be obtained free of charge from Master Lock Co., 2600 N. 32nd St., Milwaukee 45, Wisc., or by using the Service Coupon.

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rear of his ear. O'Brien believes that this placement farther back on the neck adds two or three inches to the total distance over which force may be applied to the shot. His right forearm is not under the shot.

It would seem that a position of the right elbow similar to Nieder's would permit a straighter, more powerful arm drive for the putting action.

In his dip over the right knee and foot Nieder flexes his spine laterally to the right; whereas, O'Brien does not. O'Brien attains this lateral flexion of the spine to the right at the completion of the shift.

At the completion of the shift Nieder is not quite as low as O'Brien because the latter's back is parallel to the ground and the former's is not. O'Brien's lower position would seem to place him in a spot from which he would obtain greater power from his right leg.

O'Brien's right elbow is in a lower position at the completion of the shift than it was in the initial stance. However, it is still not as low as Nieder's. As a result of this lower position of O'Brien's right elbow, the shot has started to move forward across his neck. The position of Nieder's shot has not changed.

In the final putting position, Nieder's left foot is about one foot to the left of the center line at the toeboard and O'Brien's is right on the center line.

Practically all of Nieder's best puts have been from this position. Apparently placing his left foot slightly to the left of the center line places him in a position from which he can attain greater drive from his right leg, and he is able to obtain added impetus from his left leg.

O'Brien readily admits that he does not obtain as much power from his left leg as he would like.

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Precision Athletic Goggle Co., 56,	<input type="checkbox"/> Free brochure
Seamless Rubber Co., 23,	Write direct to advertiser
Seron Mfg. Co., 57,	<input type="checkbox"/> Information "Glass Gard" eyeglass holder

GYMNASIUM & FIELD EQUIPMENT

Aalco Mfg. Co., 53,	<input type="checkbox"/> Free catalog
American Machine & Metals, 52,	<input type="checkbox"/> Full information
Arnett, Richard W., 50,	<input type="checkbox"/> Information "Arnett" starting blocks
Audio Equipment Co., Inc., 56,	<input type="checkbox"/> Free literature
Bat-Tee Co., 52,	<input type="checkbox"/> Information
Chicago Roller Skate Co., 47,	<input type="checkbox"/> Free details on roller skating program
Dedoes Industries, 51,	<input type="checkbox"/> Free literature
Economy Track Equipment Co., 58,	<input type="checkbox"/> Information
Fenner-Hamilton Co., 61,	<input type="checkbox"/> Full information
Gymnastic Supply Co., 56,	<input type="checkbox"/> Free new 1957 catalog
H. & R. Mfg. Co., 60,	<input type="checkbox"/> Free booklet
Harvard Table Tennis Co., 39,	<input type="checkbox"/> Free Harvard Tournament Kit
Holmes Folding Hurdle Co., 55,	<input type="checkbox"/> Information
Hussey Mfg. Co., 54,	<input type="checkbox"/> Free catalogs
Jayfro Athletic Supply Co., 62,	<input type="checkbox"/> Free catalog
K. & P. Athletic Co., The, 59,	<input type="checkbox"/> Name of nearest dealer
Naden Industries, 59,	<input type="checkbox"/> Football catalog; <input type="checkbox"/> Basketball catalog; <input type="checkbox"/> Baseball catalog
National Sports Co., 58,	<input type="checkbox"/> Free circular
Nissen Trampoline Co., 43,	<input type="checkbox"/> Free catalog
Riddell, Inc., John T., 21,	<input type="checkbox"/> Information safety suspension helmets
Safway Steel Bleachers, 63,	<input type="checkbox"/> Information
Seamless Rubber Co., 23,	Write direct to advertiser
Smash, 54,	<input type="checkbox"/> Free rules and playing hints
Steinmetz, Ed, 57,	<input type="checkbox"/> Information
Travelrain Power Sprinkler Co., 58,	<input type="checkbox"/> Free new price circular
Wright Products Co., 59,	<input type="checkbox"/> Information

QUALITY
RENTAL
OR
PURCHASE
SERVICE

Safway Deluxe Bleachers
Safway Steel Bleachers
Safway Telescopic Bleachers
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Stadium Lighting
Berger Steel Lockers
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we are happy to quote on all sizes of installations
SAFWAY STEEL BLEACHERS, DETROIT
57 E. CANFIELD — DETROIT 1, MICHIGAN
Lou Zarza, Representative

RECONDITIONERS

- Ivory System, Inc., Cover 4, ☐ Add name to "Observer" list
☐ Complete details on nation-wide service

FLOOR FINISHES

- Hillyard Chemical Co., 1, ☐ Information "Trophy" gym floor finish
 Huntington Laboratories, Inc., 41, ☐ Information "Seal-O-San" gym floor finish

BASEBALL EQUIPMENT

- Hillerich & Bradsby Co., 29, ☐ Free new Louisville Slugger Bat catalog
 See listing under "Films"

RUBBER BALLS

- Seamless Rubber Co., 23, Write direct to advertiser
 Voit Rubber Corp., 19, ☐ Information "XB20" basketball

GOLF EQUIPMENT

- Hillerich & Bradsby Co., 29, ☐ Free new Louisville Grand Slam golf catalog
 See listing under "Films"

SWIMMING SUPPLIES

- Ocean Pool Supply Co., 38, ☐ Free catalog D

AWARDS & TROPHIES

- Harter, House of, 57, ☐ Information
 Noble & Co. Inc., F. H., 60, ☐ Information and catalog

TURF PRODUCTS

- West Point Products Corp., 60, ☐ Free booklet "Improving Athletic Fields"

FILMS

- Hillerich & Bradsby Co., 29, ☐ Arrange for booking of "1956 World Series Film" through your sporting goods dealer
 Sports Film Enterprises, 4, ☐ "Sport-Loops," 9 films or less \$3.00 each; ☐ 10 films \$25.00; ☐ 15 films \$35.00

NETS

- Linen Thread Co., Inc., 61, ☐ Information "Invincible" nets
 Sterling Net & Twine Co., Inc., 50, ☐ Free literature

COACHING CLINICS

- Ohio High School Football Coaching School, 57, ☐ Information

NEW ITEMS

- Master Lock Co., 62, ☐ Free "Coaches' Sports Calendar"
 Naden Industries, 62, ☐ Free bulletin A-1
 Program Aids Co., 62, ☐ Information
 Wigwam Mills, Inc., 62, ☐ Information
 Wilson Sporting Goods Co., 62, ☐ Information

BOOKS

(Enclose money where required)

- Athletic Enterprises, 61, ☐ "Organization and Administration of the High School Varsity Club," \$1.00
☐ Locker Room Slogans, \$1.00
 Athletic Institute, The, 46, See advertisement for titles and prices of "Instructor's Guides"
 Prentice-Hall, Inc., 53, ☐ "The Athletic Director's Handbook," Charles E. Forsythe, \$7.50
 Robinson, Jim, 60, ☐ "1956 Ohio High School Football Coaching School Notes," \$3.00
 Scoremaster Co., 53, ☐ Information "Scoremaster Scorebooks"

Coupon will not be honored unless position is stated.

NAME _____ POSITION _____

SCHOOL _____

STREET ADDRESS OF SCHOOL _____

CITY _____ ZONE _____ STATE _____

Huntington Laboratories, Inc.	41
Huntington, Indiana	
Hussey Mfg. Co.	34
544 Railroad Ave., North Berwick, Maine	
Ivory System, Inc.	Cover 4
Peabody, Massachusetts	
Jayfro Athletic Supply Co.	62
P. O. Box 1065 - Dept. C, New London, Conn.	
K. & P. Athletic Co., The	59
1115 Jerome St., Midland, Mich.	
King-O'Shea Sportswear Co.	49
River Grove, Illinois	
Linen Thread Co., Inc.	61
418 Grand St., Paterson 1, N. J.	
MacGregor Co., The	27
4861 Spring Grove Ave., Cincinnati 32, Ohio	
Naden Industries	59
Webster City, Iowa	
National Sports Co.	58
364-374 N. Marquette St., Fond du Lac, Wisc.	
Nissen Trampoline Co.	43
200 A Ave., N. W., Cedar Rapids, Iowa	
Noble & Co., Inc., F. H.	60
539 W. 59th St., Chicago 21, Ill.	
Ocean Pool Supply Co.	38
155 W. 23 St., New York 11, N. Y.	
Ohio High School Football Coaching School	57
Jim Robinson, Lehman High School, Canton, Ohio	
Ohio High School Football Coaching School Notes	60
Jim Robinson, Lehman High School, Canton, Ohio	
Precision Athletic Goggle Co.	56
Dept. 333, Rochelle, Ill.	
Prentice-Hall, Inc.	53
Englewood Cliffs, New Jersey	
Rawlings Sporting Goods Co.	Cover 2
2300 Delmar Blvd., St. Louis, Mo.	
Riddell, Inc., John T.	21
1259 N. Wood St., Chicago 22, Ill.	
Safway Steel Bleachers	63
57 E. Canfield, Detroit 1, Mich.	
Sand Knitting Mills Corp.	55
Berlin, Wisconsin	
Scoremaster Co.	53
P. O. Box 46038, Hollywood 46, Calif.	
Seamless Rubber Co.	23
New Haven, Connecticut	
Seron Mfg. Co.	57
Barber Bldg., Joliet, Ill.	
Smash	54
4700 Woodland Ave., Western Springs, Ill.	
Spalding & Bros., A. G.	3
161 Sixth Ave., New York 13, N. Y.	
Sports Film Enterprises	4
P. O. Box 619, Whittier, Calif.	
Spot Bilt	5
160 Munroe St., Cambridge, Mass.	
Steinmetz, Ed.	57
552 Greenwich Ave., Paulsboro, N. J.	
Sterling Net & Twine Co., Inc.	50
164 Belmont Ave., Belleville 7, N. J., 131 State St., Boston 9, Mass.	
Travelrain Power Sprinkler Co.	58
362 N. Canon Drive, Beverly Hills, Calif.	
Voit Rubber Corp.	19
1600 E. 25th St., Los Angeles, Calif.	
West Point Products Corp.	60
West Point, Pennsylvania	
Wilson Sporting Goods Co.	17, 45
River Grove, Illinois	
Wilton Mfg. Co.	22
Ware, Massachusetts	
Wright Products Co.	59
Box 72, Addison, Mich.	

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Cover 2
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55
53
23
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3
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57
50
58
19
60
17, 45
22
59

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Forearm guard pulls on



Made of ENSOLITE* (for superior shock absorption) . . . durable elastic . . . tough nylon covering. Contains no fibre.

The trainer for a large eastern university came to us with this problem. He wanted protective forearm padding for his football players that would be easier to put on than separate pieces of foam rubber and tape . . . and give better protection.

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and trainers who have seen the new Bike pull-on guard confirms our belief that this will be one of the popular new pieces of protective equipment in 1957.

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Division of The Kendall Company

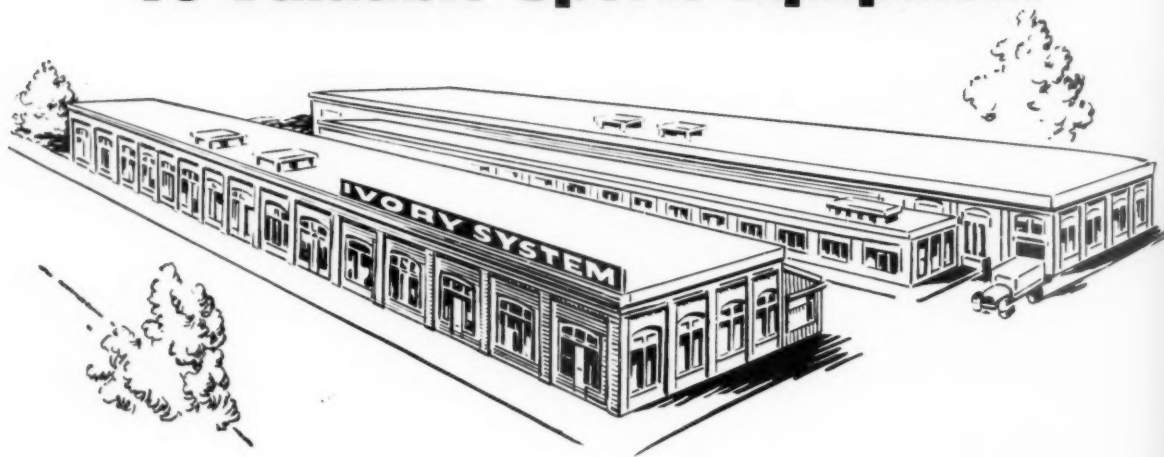
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2

